

THE POINT – SOUTH PKG 2

ROLESVILLE, NORTH CAROLINA

STORM DRAINAGE CALCULATIONS

PROJECT NUMBER: 2021110396
DESIGNED BY: W. T. O'DANIEL, PE

DATE: JULY 28, 2021
REVISED: FEBRUARY 18, 2022



MCADAMS

2905 MERIDIAN PARKWAY
DURHAM, NORTH CAROLINA 27713
NC LIC. # C-0293

THE POINT SOUTH – PKG 2

STORM DRAINAGE SYSTEM CALCULATIONS

GENERAL DESCRIPTION

The Point site is located along NC HWY 401 (Louisburg Road) and west of East Young Street in Rolesville, North Carolina. The proposed development at The Point is approximately 300 acres, divided into two sections with one to the north of NC HWY 401 (The Point – North) and another to the south of NC HWY 401 (The Point - South). This storm drainage analysis includes CD Package 2 of the “The Point – South” only. The total development will consist of approximately 804 lots, a mixture of townhomes and various types of single-family housing, thirteen stormwater control measures, sidewalks, roadways, greenway trail, and associated infrastructure and various amenities.

The Point South – Pkg 2 development is located within the Neuse River basin with the site’s stormwater runoff draining into Harris Creek. The proposed development shall be subject to storm drainage requirements set forth in the Rolesville Unified Development Ordinance.

CALCULATION METHODOLOGY

- > Rainfall data for the Rolesville, NC region was taken from NOAA Atlas 14. This data describes a depth-duration-frequency (DDF) table describing rainfall depth versus time for varying return periods in the Rolesville, NC area. These rainfall depths are entered into the “Stormwater Studio” application to determine design flows associated with the storm drainage system. Please reference the rainfall data section within this report for additional information.
- > The time of concentration was calculated using the Kirpich Method.
- > The existing on-site topography used in the analysis is from a field survey by The John R. McAdams Company, Inc. and local GIS data.
- > For each individual storm drainage inlet, a drainage area was measured as well as assigning impervious surface percentage. From this impervious percentage, a rational c factor was calculated based on 0.95 for impervious areas. For drainage areas with a combination of both pervious (Open Space and Lawns, C=0.35) and impervious areas, a composite “c” factor was interpolated.
- > The pipes were sized using “Stormwater Studio 2021 Ver. 3.0.0.25”. This program accepts the input data from each inlet, as well as physical characteristics of the storm system to be designed, and calculates flow rates and pipe sizes throughout the system. The final results of this program as well as calculated pipe sizes and hydraulic grade lines may be found in the appropriate section of this report. The minimum pipe size was 15” unless otherwise shown on the plans. Pipe material is RCP or HDPE as indicated on the plans.

- > The inlet types included for this project are primarily NCDOT type combination catch basins with curb inlets and grates. The calculations include an analysis to determine gutter spread at these inlets based on a 4-in per hour rainfall intensity.
- > The storm water network was analyzed for the 10-year storm event using a starting time of concentration of 5 minutes.
- > The various inlet types are shown on the stormwater detail sheets, within the plan set. Flared end sections or Endwalls are used at discharge points. Headwalls or structures are used at inlet points. Velocity dissipators are provided at discharge points to prevent erosion and scour in these areas. The dissipators have been sized using the NYDOT method.

PRECIPITATION FREQUENCY DATA TABLES

The Point – South Pkg 2
2021110396



NOAA Atlas 14, Volume 2, Version 3
Location name: Wake Forest, North Carolina, USA*
Latitude: 35.9088°, Longitude: -78.4485°
Elevation: 405.98 ft**
 * source: ESRI Maps
 ** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

G.M. Bonnin, D. Martin, B. Lin, T. Parzybok, M.Yekta, and D. Riley

NOAA, National Weather Service, Silver Spring, Maryland

[PF_tabular](#) | [PF_graphical](#) | [Maps & aerials](#)

PF tabular

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	4.84 (4.43-5.29)	5.62 (5.15-6.14)	6.41 (5.87-6.98)	7.19 (6.58-7.85)	7.98 (7.27-8.70)	8.62 (7.81-9.40)	9.18 (8.28-10.0)	9.68 (8.68-10.6)	10.2 (9.10-11.2)	10.7 (9.46-11.7)
10-min	3.86 (3.54-4.23)	4.49 (4.12-4.91)	5.13 (4.70-5.59)	5.75 (5.26-6.28)	6.36 (5.80-6.94)	6.86 (6.22-7.48)	7.29 (6.58-7.95)	7.67 (6.88-8.37)	8.09 (7.19-8.84)	8.45 (7.45-9.25)
15-min	3.22 (2.95-3.52)	3.77 (3.45-4.12)	4.32 (3.96-4.72)	4.85 (4.44-5.29)	5.38 (4.90-5.86)	5.79 (5.25-6.31)	6.14 (5.54-6.70)	6.45 (5.78-7.04)	6.79 (6.04-7.42)	7.07 (6.23-7.74)
30-min	2.21 (2.02-2.42)	2.60 (2.38-2.84)	3.07 (2.81-3.35)	3.51 (3.21-3.83)	3.98 (3.63-4.34)	4.36 (3.96-4.75)	4.71 (4.24-5.13)	5.02 (4.50-5.48)	5.40 (4.80-5.90)	5.73 (5.05-6.27)
60-min	1.38 (1.26-1.51)	1.63 (1.50-1.78)	1.97 (1.80-2.15)	2.29 (2.09-2.50)	2.65 (2.41-2.89)	2.96 (2.68-3.22)	3.24 (2.92-3.53)	3.52 (3.16-3.84)	3.88 (3.45-4.23)	4.18 (3.68-4.57)
2-hr	0.805 (0.732-0.888)	0.957 (0.874-1.05)	1.17 (1.06-1.28)	1.37 (1.25-1.50)	1.61 (1.46-1.77)	1.83 (1.64-2.00)	2.03 (1.81-2.22)	2.24 (1.99-2.45)	2.52 (2.21-2.75)	2.76 (2.40-3.02)
3-hr	0.568 (0.516-0.629)	0.676 (0.617-0.746)	0.828 (0.753-0.913)	0.980 (0.889-1.08)	1.16 (1.05-1.28)	1.33 (1.19-1.46)	1.49 (1.33-1.64)	1.66 (1.47-1.82)	1.89 (1.65-2.08)	2.10 (1.81-2.31)
6-hr	0.342 (0.312-0.378)	0.407 (0.372-0.448)	0.499 (0.455-0.548)	0.591 (0.537-0.648)	0.705 (0.637-0.772)	0.808 (0.726-0.884)	0.912 (0.811-0.996)	1.02 (0.900-1.11)	1.17 (1.02-1.27)	1.31 (1.12-1.43)
12-hr	0.200 (0.183-0.221)	0.238 (0.219-0.262)	0.293 (0.269-0.322)	0.350 (0.319-0.383)	0.420 (0.381-0.459)	0.485 (0.436-0.528)	0.551 (0.490-0.599)	0.622 (0.547-0.675)	0.719 (0.622-0.781)	0.809 (0.690-0.880)
24-hr	0.119 (0.111-0.128)	0.144 (0.134-0.155)	0.181 (0.168-0.195)	0.210 (0.195-0.227)	0.251 (0.232-0.270)	0.283 (0.261-0.304)	0.316 (0.290-0.340)	0.350 (0.321-0.378)	0.398 (0.362-0.429)	0.436 (0.395-0.471)
2-day	0.069 (0.064-0.074)	0.083 (0.078-0.090)	0.104 (0.097-0.112)	0.120 (0.111-0.129)	0.142 (0.132-0.153)	0.160 (0.147-0.172)	0.178 (0.164-0.192)	0.197 (0.180-0.212)	0.223 (0.203-0.241)	0.243 (0.220-0.263)
3-day	0.049 (0.046-0.052)	0.059 (0.055-0.063)	0.073 (0.068-0.078)	0.084 (0.078-0.090)	0.099 (0.092-0.107)	0.112 (0.103-0.120)	0.124 (0.114-0.133)	0.137 (0.126-0.147)	0.155 (0.141-0.167)	0.169 (0.154-0.183)
4-day	0.039 (0.036-0.041)	0.046 (0.043-0.050)	0.057 (0.054-0.061)	0.066 (0.062-0.071)	0.078 (0.072-0.083)	0.088 (0.081-0.094)	0.097 (0.090-0.104)	0.107 (0.099-0.115)	0.121 (0.111-0.130)	0.132 (0.120-0.142)
7-day	0.026 (0.024-0.027)	0.031 (0.029-0.033)	0.037 (0.035-0.040)	0.043 (0.040-0.046)	0.050 (0.047-0.054)	0.056 (0.052-0.060)	0.062 (0.057-0.066)	0.068 (0.063-0.073)	0.077 (0.070-0.082)	0.084 (0.076-0.090)
10-day	0.020 (0.019-0.022)	0.024 (0.023-0.026)	0.029 (0.027-0.031)	0.033 (0.031-0.035)	0.039 (0.036-0.041)	0.043 (0.040-0.046)	0.047 (0.044-0.050)	0.051 (0.047-0.055)	0.057 (0.053-0.061)	0.062 (0.057-0.066)
20-day	0.014 (0.013-0.015)	0.016 (0.015-0.017)	0.019 (0.018-0.020)	0.022 (0.020-0.023)	0.025 (0.023-0.026)	0.027 (0.025-0.029)	0.030 (0.028-0.032)	0.032 (0.030-0.035)	0.036 (0.033-0.038)	0.039 (0.036-0.041)
30-day	0.011 (0.011-0.012)	0.013 (0.013-0.014)	0.016 (0.015-0.017)	0.017 (0.016-0.018)	0.020 (0.018-0.021)	0.021 (0.020-0.023)	0.023 (0.022-0.025)	0.025 (0.023-0.026)	0.027 (0.025-0.029)	0.029 (0.027-0.031)
45-day	0.010 (0.009-0.010)	0.011 (0.011-0.012)	0.013 (0.012-0.014)	0.014 (0.013-0.015)	0.016 (0.015-0.017)	0.017 (0.016-0.018)	0.018 (0.017-0.019)	0.020 (0.018-0.021)	0.021 (0.020-0.023)	0.022 (0.021-0.024)
60-day	0.009 (0.008-0.009)	0.010 (0.010-0.011)	0.011 (0.011-0.012)	0.013 (0.012-0.013)	0.014 (0.013-0.015)	0.015 (0.014-0.016)	0.016 (0.015-0.017)	0.017 (0.016-0.018)	0.018 (0.017-0.019)	0.019 (0.018-0.020)

¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

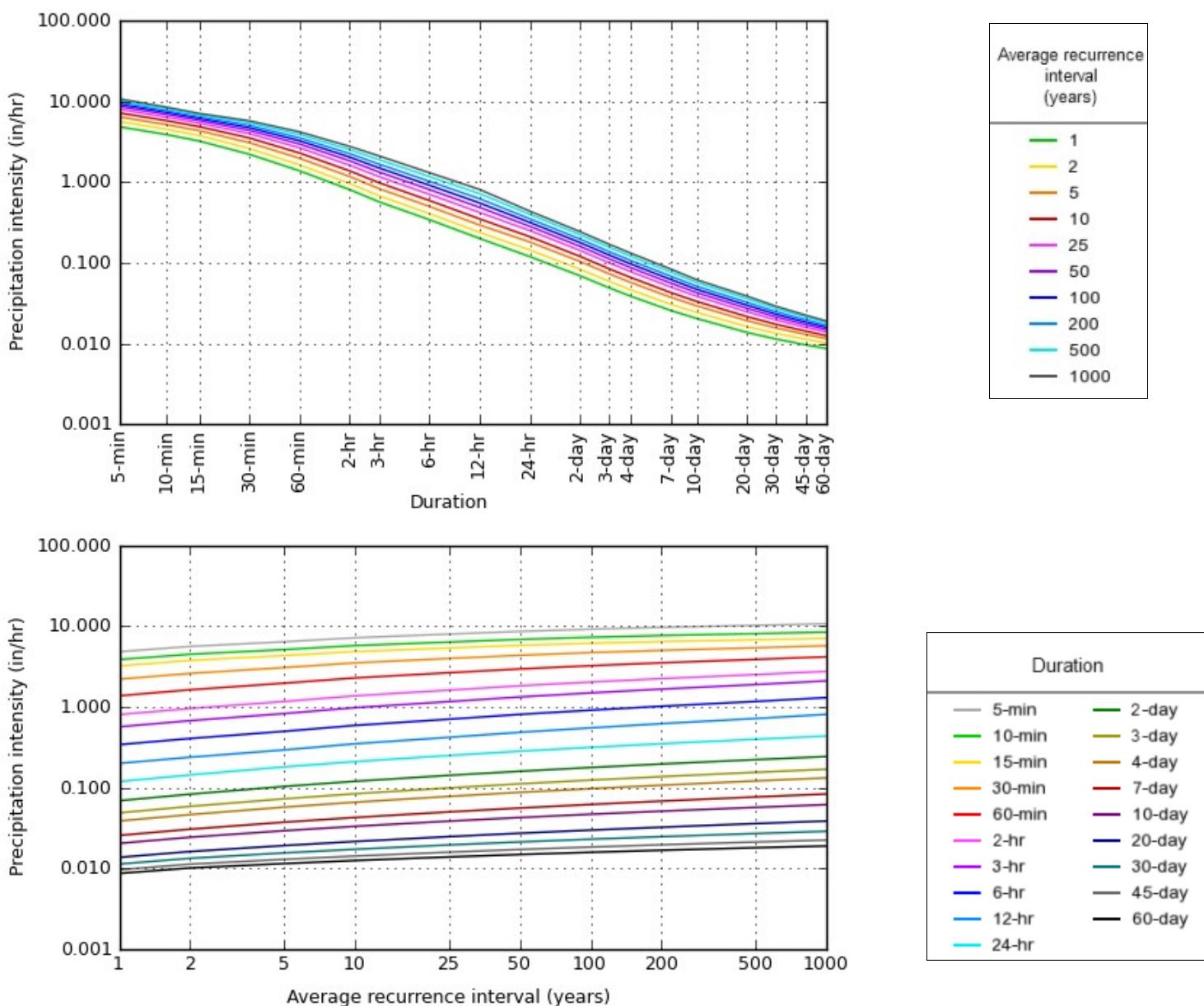
Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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PF graphical

PDS-based intensity-duration-frequency (IDF) curves
Latitude: 35.9088°, Longitude: -78.4485°



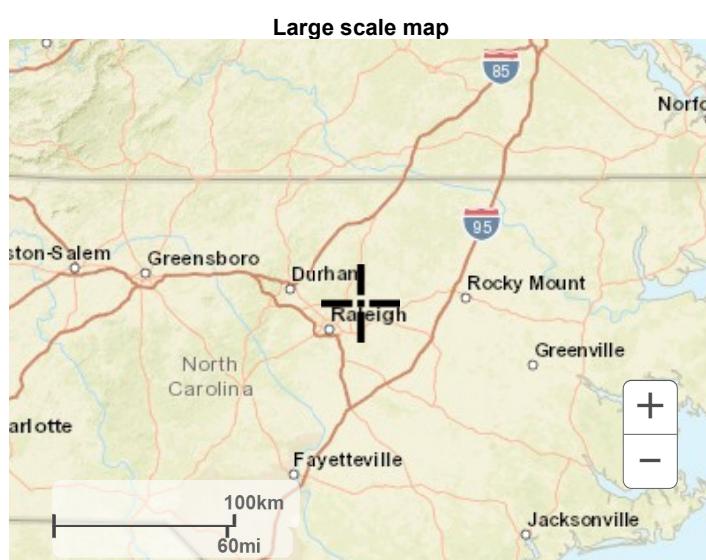
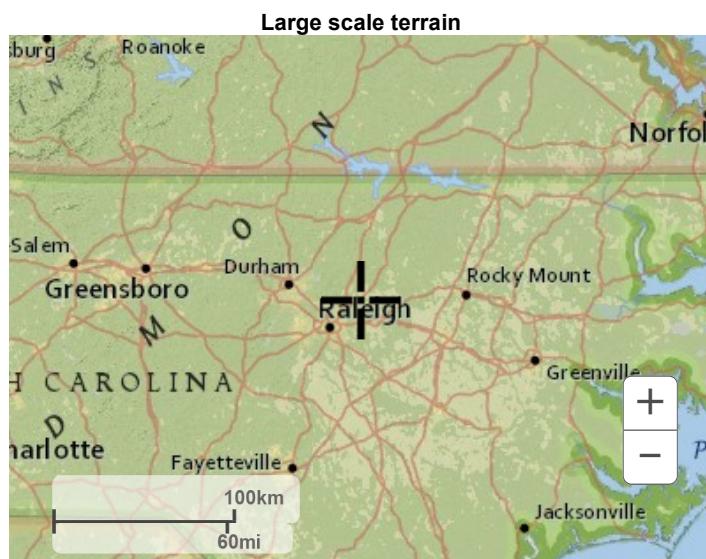
NOAA Atlas 14, Volume 2, Version 3

Created (GMT): Thu Oct 29 20:52:01 2020

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Large scale aerial

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1325 East West Highway
Silver Spring, MD 20910

Questions?: HDSC.Questions@noaa.gov

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IDF Report

Stormwater Studio 2021 v 3.0.0.25

IDF filename: The Point.IDF

07-27-2021

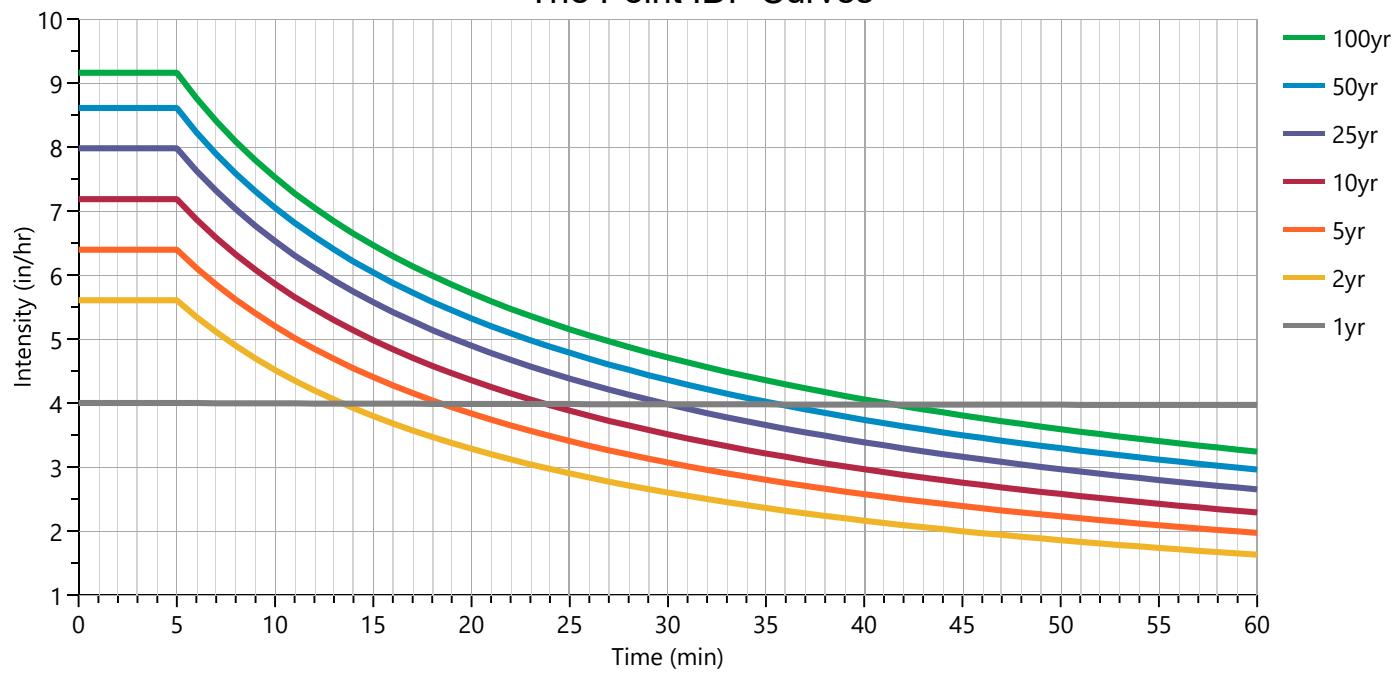
Equation Coefficients	Intensity = B / (Tc + D)^E (in/hr)							
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
B	4.0388	71.7923	0.0000	70.2128	67.8360	62.7327	55.6315	53.3810
D	5.5000	13.0000	0.0000	12.7000	12.0000	11.1000	9.9000	9.4000
E	0.0041	0.8822	0.0000	0.8337	0.7923	0.7421	0.6907	0.6608

Minimum Tc = 5 minutes

Tc (min)	Intensity Values (in/hr)							
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
Cf	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
5	4.00	5.61	0	6.40	7.19	7.98	8.61	9.16
10	3.99	4.52	0	5.20	5.86	6.53	7.05	7.52
15	3.99	3.80	0	4.40	4.98	5.57	6.04	6.46
20	3.99	3.28	0	3.83	4.35	4.89	5.32	5.72
25	3.98	2.90	0	3.41	3.88	4.38	4.78	5.15
30	3.98	2.60	0	3.07	3.51	3.98	4.36	4.71
35	3.98	2.36	0	2.80	3.21	3.65	4.02	4.35
40	3.98	2.16	0	2.58	2.96	3.39	3.74	4.06
45	3.97	2.00	0	2.39	2.76	3.16	3.50	3.81
50	3.97	1.86	0	2.23	2.58	2.97	3.29	3.59
55	3.97	1.74	0	2.09	2.42	2.80	3.12	3.40
60	3.97	1.63	0	1.97	2.29	2.65	2.96	3.24

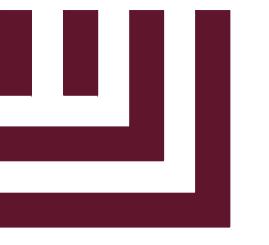
Cf = Correction Factor applied to Rational Method runoff coefficient.

The Point IDF Curves



DRAINAGE AREA MAP

The Point – South Pkg 2
2021110396



MCADAMS

The John R. McAdams Company, Inc.
2905 Meridian Parkway
Durham, NC 27713

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license number: C-0293, C-187

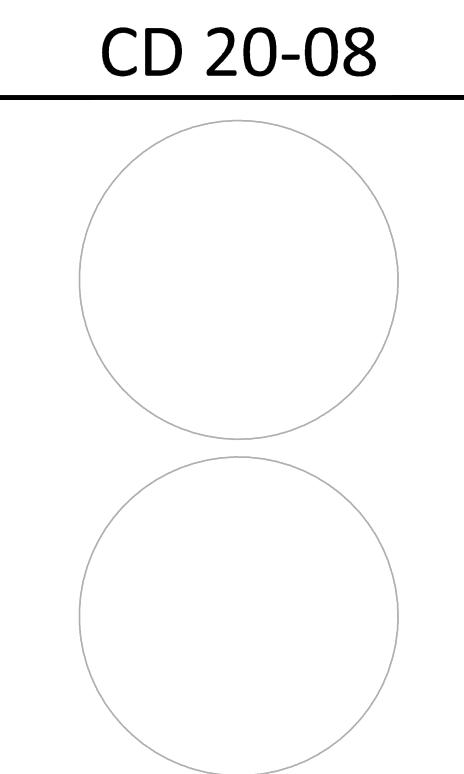
www.mcadamsco.com

CLIENT

ASHTON RALEIGH RESIDENTIAL, LLC.
5711 SIX FORKS ROAD, SUITE 300
RALEIGH, NORTH CAROLINA 27609
PHONE: 919.232.3695
CONTACT: BOB MISHLER

AW
ASHTON WOODS™

**THE POINT
PHASES 3, 4, 5, 7 AND 10
CONSTRUCTION DRAWINGS - PACKAGE 2
EAST YOUNG STREET
TOWN OF ROLESVILLE, WAKE FOREST TOWNSHIP,
WAKE COUNTY, NORTH CAROLINA**



REVISIONS

- | | |
|-----|---|
| NO. | DATE |
| 1 | 02.25.2022 REV PER TOWN AND CITY COMMENTS |
| 2 | 03.17.2021 REV PER WAKE COUNTY COMMENTS |
| 3 | 02.25.2022 REV PER WAKE COUNTY COMMENTS |

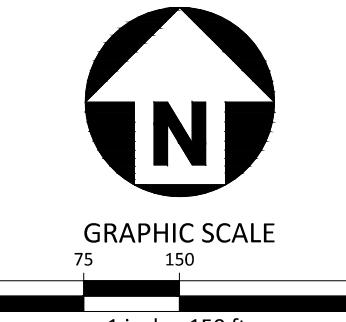
PLAN INFORMATION

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CHECKED BY
DRAWN BY
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DATE 07.28.2021

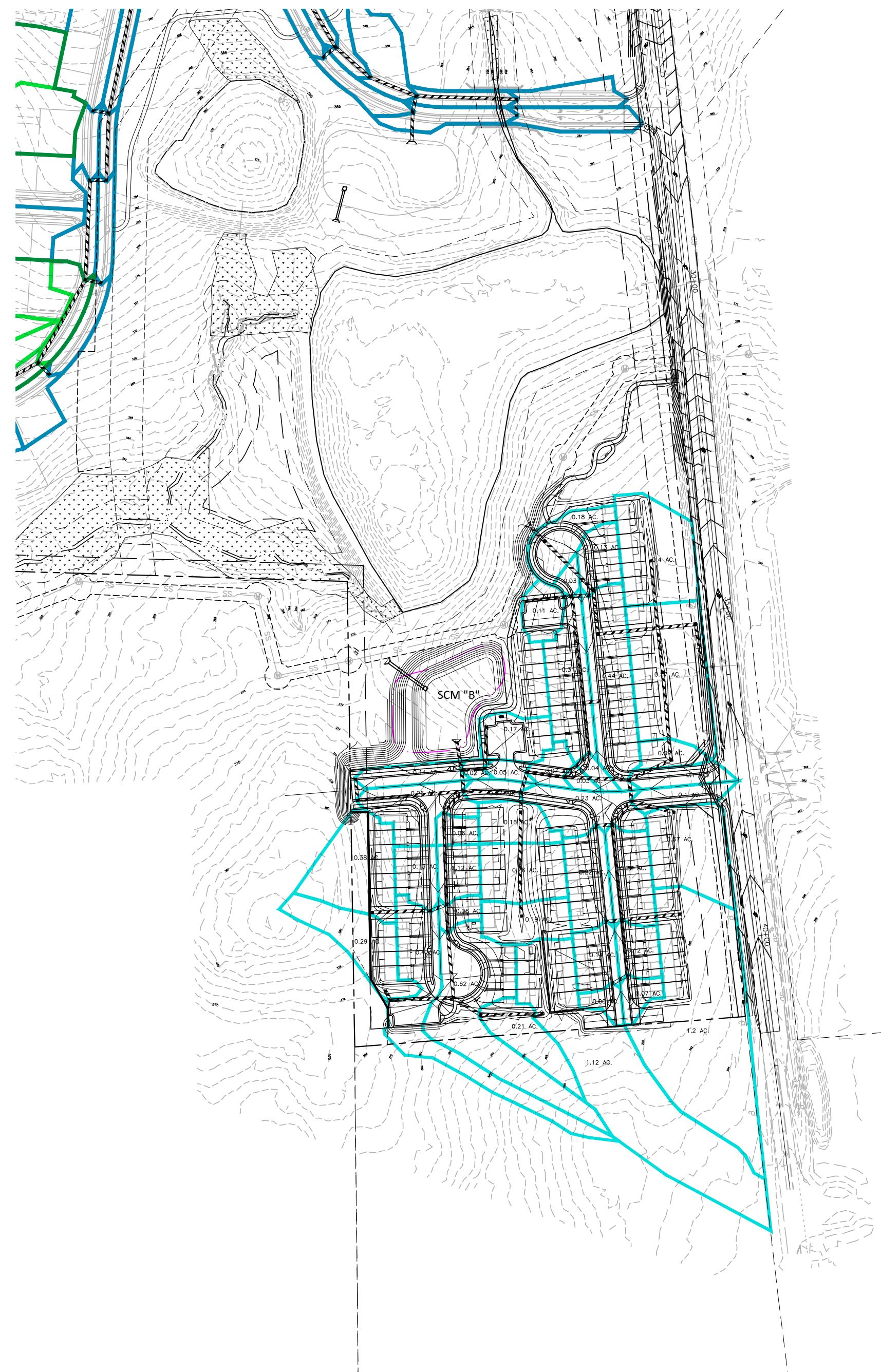
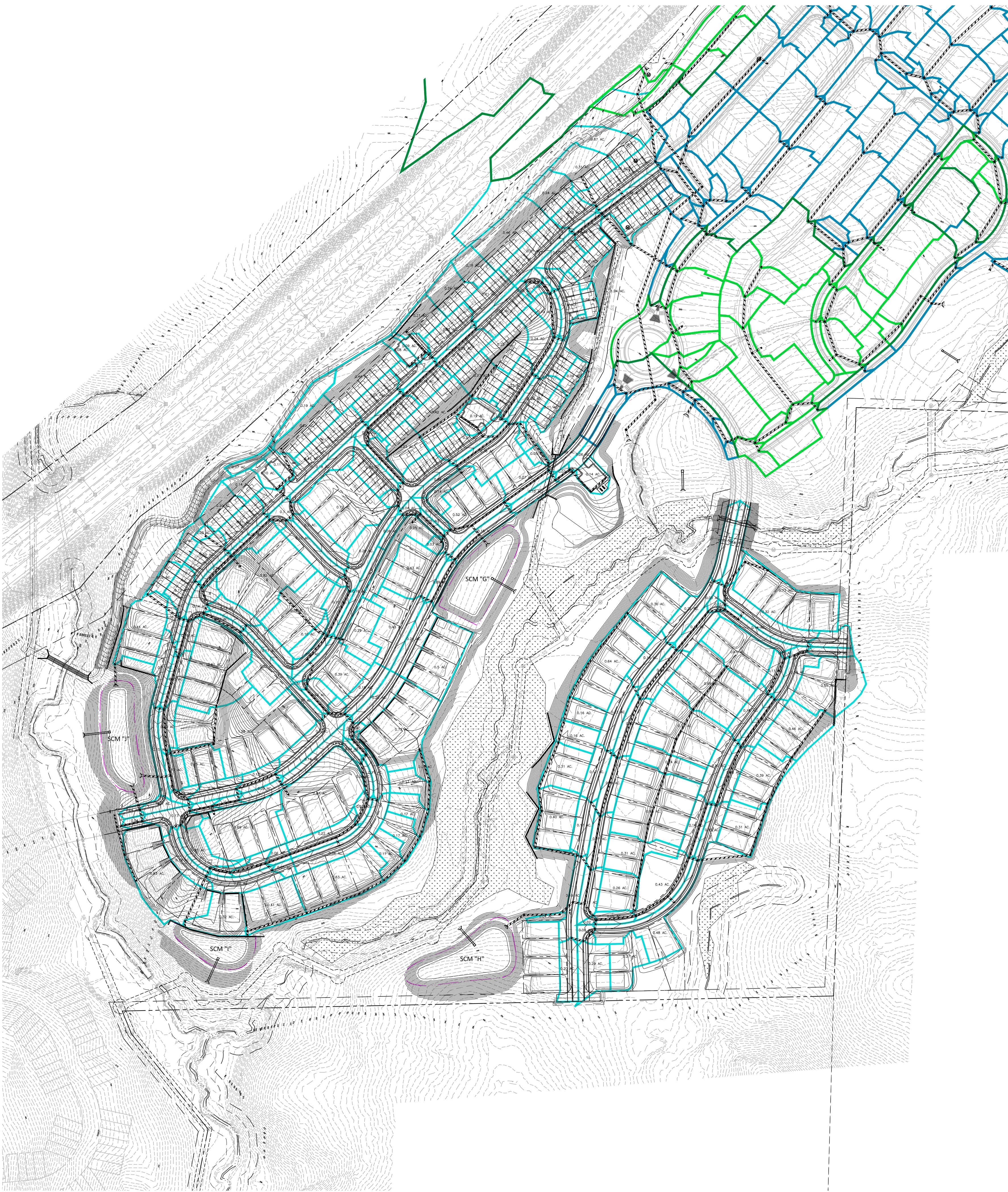
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**DRAINAGE AREA
MAP**

1 OF 1

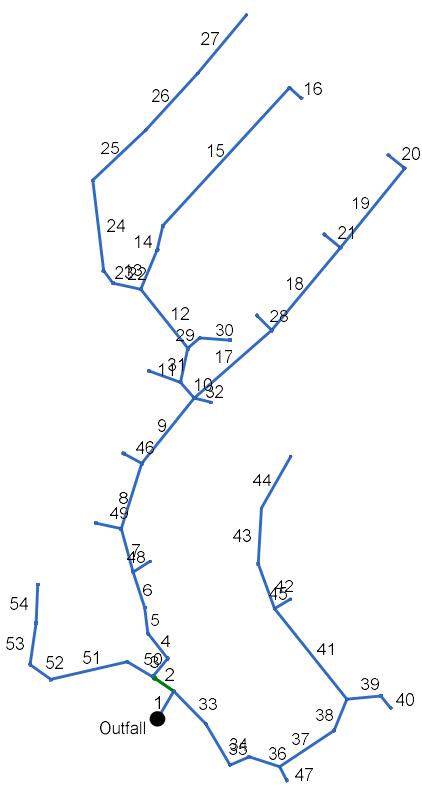


GRAPHIC SCALE
0 75 150 300
1 inch = 150 ft.



SYSTEM 500 – REPORTS AND PROFILES

Hydraflow Storm Sewers Extension for Autodesk® Civil 3D® Plan



Project File: Storm System 500.stm

Number of lines: 54

Date: 1/27/2021

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
1	500-501	45.52	54	Cir	49.948	344.00	344.25	0.507	348.12	346.20	n/a	346.20	End	Combination
2	501-515	33.33	48	Cir	39.865	344.35	344.60	0.625	346.20	346.32	n/a	346.32 j	1	Combination
3	515-521	29.44	36	Cir	36.588	344.83	345.05	0.601	346.45	346.81	n/a	346.81	2	Combination
4	521-522	27.78	36	Cir	50.272	345.15	345.45	0.597	346.81	347.15	n/a	347.15	3	Combination
5	522-523	27.15	36	Cir	40.896	345.55	345.80	0.611	347.15	347.48	n/a	347.48	4	Combination
6	523-524	26.91	36	Cir	57.512	345.90	346.25	0.609	347.48	347.92	1.00	347.92	5	Combination
7	524-525	25.28	30	Cir	70.340	346.35	346.75	0.569	348.07	348.47	1.04	349.51	6	Combination
8	525-527	24.15	30	Cir	106.739	347.10	349.90	2.623	349.51	351.57	n/a	351.57 j	7	Combination
9	527-529	22.60	30	Cir	130.040	350.05	354.30	3.264	351.57	355.91	n/a	355.91	8	Combination
10	529-537	11.03	24	Cir	32.501	355.20	355.40	0.600	356.36	356.59	n/a	356.59	9	Combination
11	537-539	10.47	24	Cir	54.556	355.50	356.50	1.834	356.59	357.66	n/a	357.66	10	Combination
12	539-542	8.91	24	Cir	117.471	356.60	357.25	0.549	357.66	358.31	n/a	358.31	11	Combination
13	542-543	6.63	18	Cir	66.325	359.90	362.45	3.845	360.49	363.44	n/a	363.44	12	Combination
14	543-544	4.84	15	Cir	38.889	362.70	363.95	3.214	363.44	364.84	0.34	364.84	13	Combination
15	544-545	3.73	15	Cir	291.492	364.05	367.45	1.167	364.84	368.23	n/a	368.23 j	14	Combination
16	545-546	1.86	15	Cir	24.500	367.55	367.70	0.600	368.23	368.24	n/a	368.24	15	Combination
17	529-531	12.48	24	Cir	160.212	355.50	360.40	3.055	356.27	361.66	n/a	361.66	9	Combination
18	531-533	8.70	18	Cir	167.742	361.00	364.10	1.845	361.85	365.24	0.85	365.24	17	Combination
19	533-535	5.05	15	Cir	158.720	364.50	366.80	1.452	365.24	367.72	0.65	367.72	18	Combination
20	535-536	2.31	15	Cir	32.500	366.90	367.10	0.631	367.72	367.71	n/a	367.71 j	19	Combination
21	533-534	1.96	15	Cir	32.500	364.30	364.50	0.631	365.24	365.06	n/a	365.06	18	Combination
22	542-547	3.34	15	Cir	43.984	357.84	358.10	0.600	358.58	358.85	0.32	359.16	12	Combination
23	547-548	3.31	15	Cir	24.626	358.20	358.35	0.600	359.16	359.20	0.18	359.38	22	Combination
24	548-549	2.67	15	Cir	142.125	358.45	360.70	1.585	359.38	361.36	n/a	361.36 j	23	DropGrate
Project File: Storm System 500.stm									Number of lines: 54			Run Date: 1/27/2021		
NOTES: Return period = 10 Yrs. ; j - Line contains hyd. jump.														

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
25	549-550	2.11	15	Cir	112.849	360.80	364.90	3.634	361.36	365.48	n/a	365.48	24	DropGrate
26	550-551	1.44	15	Cir	120.001	365.00	365.65	0.542	365.48	366.13	n/a	366.13 j	25	DropGrate
27	551-552	0.82	15	Cir	118.109	365.75	366.45	0.592	366.13	366.80	0.13	366.80	26	DropGrate
28	531-532	2.21	15	Cir	32.507	361.05	361.25	0.600	361.66	361.84	0.23	361.84	17	Combination
29	539-540	1.43	15	Cir	24.500	358.10	358.25	0.600	358.56	358.72	n/a	358.72	11	Combination
30	540-541	0.54	15	Cir	46.315	358.35	359.50	2.483	358.72	359.79	n/a	359.79 j	29	Combination
31	537-538	0.51	15	Cir	52.252	356.25	357.90	3.158	356.59	358.18	n/a	358.18 j	10	Combination
32	529-530	1.19	15	Cir	26.744	356.25	357.05	2.991	356.53	357.48	n/a	357.48	9	DropGrate
33	501-502	14.76	30	Cir	71.386	346.72	347.15	0.600	347.92	348.44	0.26	348.44	1	Combination
34	502-503	14.74	30	Cir	74.288	347.25	347.65	0.546	348.48	348.95	0.77	348.95	33	Combination
35	503-504	14.68	30	Cir	32.488	347.75	347.95	0.616	348.95	349.24	0.55	349.24	34	Combination
36	504-505	14.16	30	Cir	49.900	348.05	348.30	0.501	349.28	349.57	0.85	349.57	35	Combination
37	505-507	12.76	30	Cir	101.340	348.40	348.95	0.543	349.57	350.15	0.43	350.15	36	Combination
38	507-508	12.51	30	Cir	52.810	349.05	349.35	0.568	350.16	350.54	n/a	350.54	37	DropGrate
39	508-509	1.07	15	Cir	52.750	353.15	355.45	4.360	353.39	355.86	0.19	355.86	38	Combination
40	509-510	0.61	15	Cir	24.500	355.55	355.70	0.600	355.86	356.00	0.11	356.00	39	Combination
41	508-511	11.84	24	Cir	180.440	349.45	350.40	0.526	350.71	351.66	0.75	352.41	38	DropGrate
42	511-512	6.02	18	Cir	74.492	350.90	351.50	0.805	352.41	352.57	0.21	352.78	41	DropGrate
43	512-513	5.02	15	Cir	86.876	351.75	353.80	2.360	352.78	354.71	n/a	354.71 j	42	DropGrate
44	513-514	3.32	15	Cir	92.700	353.90	356.60	2.913	354.71	357.33	n/a	357.33 j	43	DropGrate
45	511-511A	2.07	15	Cir	29.295	351.26	351.64	1.298	352.41	352.21	0.22	352.21	41	DropGrate
46	527-528	0.89	15	Cir	32.503	351.60	351.80	0.631	351.95	352.17	0.13	352.17	8	Combination
47	505-506	1.48	15	Cir	24.260	350.50	350.65	0.618	350.96	351.13	n/a	351.13	36	Combination
48	524-524A	1.51	15	Cir	31.147	349.40	350.46	3.403	349.70	350.95	0.18	350.95	6	DropGrate
Project File: Storm System 500.stm									Number of lines: 54			Run Date: 1/27/2021		
NOTES: Return period = 10 Yrs. ; j - Line contains hyd. jump.														

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
49	525-526	0.55	15	Cir	39.995	348.40	348.65	0.625	349.51	348.94	n/a	348.94	7	Combination
50	515-516	5.06	24	Cir	45.564	344.80	345.05	0.534	346.32	345.84	n/a	345.84	2	Combination
51	516-517	4.98	18	Cir	121.617	345.30	346.00	0.575	346.16	346.86	n/a	347.27 j	50	Combination
52	517-518	4.39	18	Cir	39.979	346.10	346.40	0.750	347.27	347.20	0.44	347.20	51	Combination
53	518-519	3.81	15	Cir	65.834	346.70	347.05	0.539	347.54	347.90	0.14	348.04	52	Combination
54	519-520	2.16	15	Cir	59.959	347.15	347.45	0.500	348.04	348.11	0.17	348.28	53	Combination
Project File: Storm System 500.stm									Number of lines: 54			Run Date: 1/27/2021		
NOTES: Return period = 10 Yrs. ; j - Line contains hyd. jump.														

Storm Sewer Tabulation

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (l)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line		Incr (ft)	Total (ac)		Incr	Total	Inlet (min)	Syst (min)					Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
23	22	24.626	0.17	0.87	0.76	0.13	0.59	5.0	11.4	5.6	3.31	5.00	3.49	15	0.60	358.20	358.35	359.16	359.20	363.38	363.39	547-548
24	23	142.125	0.17	0.70	0.65	0.11	0.46	5.0	10.5	5.8	2.67	8.13	3.42	15	1.59	358.45	360.70	359.38	361.36	363.39	364.56	548-549
25	24	112.849	0.19	0.53	0.66	0.13	0.35	5.0	9.5	6.0	2.11	12.31	3.90	15	3.63	360.80	364.90	361.36	365.48	364.56	370.03	549-550
26	25	120.001	0.17	0.34	0.67	0.11	0.23	5.0	8.0	6.3	1.44	4.75	3.35	15	0.54	365.00	365.65	365.48	366.13	370.03	370.89	550-551
27	26	118.109	0.17	0.17	0.67	0.11	0.11	5.0	5.0	7.2	0.82	4.97	2.75	15	0.59	365.75	366.45	366.13	366.80	370.89	370.26	551-552
28	17	32.507	0.44	0.44	0.70	0.31	0.31	5.0	5.0	7.2	2.21	5.00	3.79	15	0.60	361.05	361.25	361.66	361.84	365.52	365.52	531-532
29	11	24.500	0.19	0.29	0.74	0.14	0.22	5.0	6.8	6.6	1.43	5.00	3.44	15	0.60	358.10	358.25	358.56	358.72	362.64	362.64	539-540
30	29	46.315	0.10	0.10	0.75	0.08	0.08	5.0	5.0	7.2	0.54	10.18	2.15	15	2.48	358.35	359.50	358.72	359.79	362.64	363.78	540-541
31	10	52.252	0.11	0.11	0.65	0.07	0.07	5.0	5.0	7.2	0.51	11.47	2.21	15	3.16	356.25	357.90	356.59	358.18	360.50	361.85	537-538
32	9	26.744	0.22	0.22	0.75	0.17	0.17	5.0	5.0	7.2	1.19	11.17	4.55	15	2.99	356.25	357.05	356.53	357.48	360.50	361.30	529-530
33	1	71.386	0.05	3.75	0.85	0.04	2.43	5.0	9.0	6.1	14.76	31.77	6.06	30	0.60	346.72	347.15	347.92	348.44	353.16	354.22	501-502
34	33	74.288	0.03	3.70	0.85	0.03	2.38	5.0	8.6	6.2	14.74	30.31	5.94	30	0.55	347.25	347.65	348.48	348.95	354.22	355.11	502-503
35	34	32.488	0.14	3.67	0.78	0.11	2.36	5.0	8.4	6.2	14.68	32.18	6.04	30	0.62	347.75	347.95	348.95	349.24	355.11	355.11	503-504
36	35	49.900	0.09	3.53	0.78	0.07	2.25	5.0	8.1	6.3	14.16	29.03	5.77	30	0.50	348.05	348.30	349.28	349.57	355.11	354.90	504-505
37	36	101.340	0.08	3.15	0.82	0.07	1.97	5.0	7.4	6.5	12.76	30.21	5.58	30	0.54	348.40	348.95	349.57	350.15	354.90	356.50	505-507
38	37	52.810	0.01	3.07	0.83	0.01	1.91	5.0	7.1	6.6	12.51	30.91	5.71	30	0.57	349.05	349.35	350.16	350.54	356.50	357.42	507-508
39	38	52.750	0.09	0.19	0.78	0.07	0.16	5.0	5.8	6.9	1.07	13.48	4.83	15	4.36	353.15	355.45	353.39	355.86	357.42	359.96	508-509
40	39	24.500	0.10	0.10	0.85	0.09	0.09	5.0	5.0	7.2	0.61	5.00	2.64	15	0.60	355.55	355.70	355.86	356.00	359.96	359.96	509-510
41	38	180.440	0.87	2.87	0.67	0.58	1.75	5.0	6.3	6.8	11.84	16.41	5.69	24	0.53	349.45	350.40	350.71	351.66	357.42	355.40	508-511
42	41	74.492	0.23	1.28	0.68	0.16	0.87	5.0	5.9	6.9	6.02	9.42	3.93	18	0.81	350.90	351.50	352.41	352.57	355.40	356.00	511-512
43	42	86.876	0.37	1.05	0.69	0.26	0.72	5.0	5.6	7.0	5.02	9.92	4.95	15	2.36	351.75	353.80	352.78	354.71	356.00	358.14	512-513
44	43	92.700	0.68	0.68	0.68	0.46	0.46	5.0	5.0	7.2	3.32	11.02	4.20	15	2.91	353.90	356.60	354.71	357.33	358.14	360.86	513-514

Project File: Storm System 500.stm

Number of lines: 54

Run Date: 1/27/2021

NOTES:Intensity = 67.84 / (Inlet time + 12.00) ^ 0.79; Return period =Yrs. 10 ; c = cir e = ellip b = box

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line		Incr (ft)	Total (ac)		(C)	Incr	Total	Inlet (min)	Syst (min)				Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
45	41	29.295	0.72	0.72	0.40	0.29	0.29	5.0	5.0	7.2	2.07	7.36	2.76	15	1.30	351.26	351.64	352.41	352.21	355.40	354.90	511-511A
46	8	32.503	0.15	0.15	0.83	0.12	0.12	5.0	5.0	7.2	0.89	5.13	3.04	15	0.63	351.60	351.80	351.95	352.17	356.07	356.07	527-528
47	36	24.260	0.29	0.29	0.71	0.21	0.21	5.0	5.0	7.2	1.48	5.08	3.49	15	0.62	350.50	350.65	350.96	351.13	354.90	354.90	505-506
48	6	31.147	0.30	0.30	0.70	0.21	0.21	5.0	5.0	7.2	1.51	11.91	5.03	15	3.40	349.40	350.46	349.70	350.95	353.36	353.95	524-524A
49	7	39.995	0.09	0.09	0.85	0.08	0.08	5.0	5.0	7.2	0.55	5.11	1.52	15	0.63	348.40	348.65	349.51	348.94	352.92	352.91	525-526
50	2	45.564	0.04	0.99	0.85	0.03	0.77	5.0	6.9	6.6	5.06	16.53	3.18	24	0.53	344.80	345.05	346.32	345.84	352.95	353.06	515-516
51	50	121.617	0.11	0.95	0.85	0.09	0.73	5.0	6.2	6.8	4.98	7.97	4.75	18	0.58	345.30	346.00	346.16	346.86	353.06	352.37	516-517
52	51	39.979	0.11	0.84	0.85	0.09	0.64	5.0	5.9	6.9	4.39	9.09	3.76	18	0.75	346.10	346.40	347.27	347.20	352.37	352.39	517-518
53	52	65.834	0.30	0.73	0.81	0.24	0.54	5.0	5.6	7.0	3.81	4.74	4.30	15	0.54	346.70	347.05	347.54	347.90	352.39	351.54	518-519
54	53	59.959	0.43	0.43	0.70	0.30	0.30	5.0	5.0	7.2	2.16	4.57	2.79	15	0.50	347.15	347.45	348.04	348.11	351.54	351.20	519-520
Project File: Storm System 500.stm														Number of lines: 54				Run Date: 1/27/2021				
NOTES:Intensity = 67.84 / (Inlet time + 12.00) ^ 0.79; Return period =Yrs. 10 ; c = cir e = ellip b = box																						

Hydraulic Grade Line Computations

Line	Size (in)	Q (cfs)	Downstream							Len (ft)	Upstream							Check		JL coeff	Minor loss (ft)		
			Invert elev (ft)	HGL elev (ft)	Depth (ft)	Area (sqft)	Vel (ft/s)	Vel head (ft)	EGL elev (ft)		Invert elev (ft)	HGL elev (ft)	Depth (ft)	Area (sqft)	Vel (ft/s)	Vel head (ft)	EGL elev (ft)	Sf (%)	Ave Sf (%)	Energy loss (ft)			
1	54	45.52	344.00	348.12	4.12	6.59	2.98	0.74	348.86	0.000	49.948	344.25	346.20	1.95**	6.59	6.91	0.74	346.94	0.000	0.000	n/a	1.50	n/a
2	48	33.33	344.35	346.20	1.85	5.14	5.88	0.65	346.85	0.000	39.865	344.60	346.32 j	1.71**	5.14	6.48	0.65	346.97	0.000	0.000	n/a	1.50	n/a
3	36	29.44	344.83	346.45	1.62*	3.90	7.55	0.73	347.18	0.000	36.588	345.05	346.81	1.76**	4.30	6.85	0.73	347.54	0.000	0.000	n/a	1.48	n/a
4	36	27.78	345.15	346.81	1.66	4.00	6.94	0.70	347.51	0.000	50.272	345.45	347.15	1.70**	4.14	6.71	0.70	347.85	0.000	0.000	n/a	0.86	n/a
5	36	27.15	345.55	347.15	1.60	3.84	7.07	0.69	347.84	0.000	40.896	345.80	347.48	1.68**	4.08	6.65	0.69	348.17	0.000	0.000	n/a	0.50	n/a
6	36	26.91	345.90	347.48	1.58	3.78	7.11	0.68	348.17	0.000	57.512	346.25	347.92	1.67**	4.06	6.63	0.68	348.61	0.000	0.000	n/a	1.46	1.00
7	30	25.28	346.35	348.07	1.72*	3.58	7.03	0.77	348.84	0.568	70.340	346.75	348.47	1.72**	3.60	7.03	0.77	349.24	0.569	0.569	0.400	1.35	1.04
8	30	24.15	347.10	349.51	2.41	3.49	4.98	0.74	350.25	0.000	106.739	349.90	351.57 j	1.67**	3.49	6.92	0.74	352.32	0.000	0.000	n/a	1.48	n/a
9	30	22.60	350.05	351.57	1.52	3.13	7.22	0.70	352.28	0.000	130.040	354.30	355.91	1.62**	3.36	6.73	0.70	356.62	0.000	0.000	n/a	2.08	n/a
10	24	11.03	355.20	356.36	1.15*	1.87	5.89	0.50	356.85	0.000	32.501	355.40	356.59	1.19**	1.95	5.66	0.50	357.09	0.000	0.000	n/a	1.80	n/a
11	24	10.47	355.50	356.59	1.09	1.75	5.98	0.48	357.07	0.000	54.556	356.50	357.66	1.16**	1.89	5.55	0.48	358.14	0.000	0.000	n/a	1.47	n/a
12	24	8.91	356.60	357.66	1.06	1.69	5.28	0.43	358.09	0.000	117.471	357.25	358.31	1.06**	1.70	5.25	0.43	358.74	0.000	0.000	n/a	1.55	n/a
13	18	6.63	359.90	360.49	0.59*	0.64	10.37	0.44	360.93	0.000	66.325	362.45	363.44	0.99**	1.24	5.32	0.44	363.89	0.000	0.000	n/a	0.50	n/a
14	15	4.84	362.70	363.44	0.74	0.76	6.34	0.42	363.86	0.000	38.889	363.95	364.84	0.89**	0.94	5.17	0.42	365.26	0.000	0.000	n/a	0.83	0.34
15	15	3.73	364.05	364.84	0.79	0.80	4.55	0.33	365.17	0.000	291.492	367.45	368.23 j	0.78**	0.80	4.63	0.33	368.57	0.000	0.000	n/a	1.50	n/a
16	15	1.86	367.55	368.23	0.68	0.51	2.73	0.21	368.44	0.000	24.500	367.70	368.24	0.54**	0.51	3.65	0.21	368.45	0.000	0.000	n/a	1.00	n/a
17	24	12.48	355.50	356.27	0.77*	1.12	11.15	0.55	356.82	0.000	160.212	360.40	361.66	1.27**	2.10	5.94	0.55	362.21	0.000	0.000	n/a	1.50	n/a
18	18	8.70	361.00	361.85	0.85*	1.03	8.47	0.57	362.41	0.000	167.742	364.10	365.24	1.14**	1.44	6.03	0.57	365.80	0.000	0.000	n/a	1.50	0.85
19	15	5.05	364.50	365.24	0.74	0.75	6.72	0.43	365.67	0.000	158.720	366.80	367.72	0.91**	0.96	5.28	0.43	368.15	0.000	0.000	n/a	1.50	0.65
20	15	2.31	366.90	367.72	0.82	0.59	2.71	0.24	367.95	0.000	32.500	367.10	367.71 j	0.61**	0.59	3.91	0.24	367.95	0.000	0.000	n/a	1.00	n/a
21	15	1.96	364.30	365.24	0.94	0.53	1.98	0.21	365.45	0.000	32.500	364.50	365.06	0.56**	0.53	3.71	0.21	365.27	0.000	0.000	n/a	1.00	n/a
22	15	3.34	357.84	358.58	0.75*	0.75	4.37	0.30	358.88	0.600	43.984	358.10	358.85	0.75**	0.76	4.38	0.30	359.14	0.604	0.602	0.265	1.06	0.32

Project File: Storm System 500.stm

Number of lines: 54

Run Date: 1/27/2021

Notes: * Normal depth assumed; ** Critical depth.; j-Line contains hyd. jump ; c = cir e = ellip b = box

Hydraulic Grade Line Computations

Line	Size (in)	Q (cfs)	Downstream							Len (ft)	Upstream							Check		JL coeff	Minor loss (ft)		
			Invert elev (ft)	HGL elev (ft)	Depth (ft)	Area (sqft)	Vel (ft/s)	Vel head (ft)	EGL elev (ft)		Invert elev (ft)	HGL elev (ft)	Depth (ft)	Area (sqft)	Vel (ft/s)	Vel head (ft)	EGL elev (ft)	Sf (%)	Ave Sf (%)	Energy loss (ft)			
23	15	3.31	358.20	359.16	0.96	1.01	3.27	0.17	359.33	0.298	24.626	358.35	359.20	0.85	0.89	3.72	0.22	359.41	0.405	0.351	0.087	0.83	0.18
24	15	2.67	358.45	359.38	0.93	0.65	2.73	0.26	359.64	0.000	142.125360.70	361.36 j	0.66**	0.65	4.10	0.26	361.62	0.000	0.000	n/a	1.25	n/a	
25	15	2.11	360.80	361.36	0.55	0.53	4.01	0.22	361.58	0.000	112.849364.90	365.48	0.58**	0.56	3.79	0.22	365.70	0.000	0.000	n/a	0.50	n/a	
26	15	1.44	365.00	365.48	0.48	0.43	3.34	0.18	365.66	0.000	120.001365.65	366.13 j	0.47**	0.43	3.37	0.18	366.30	0.000	0.000	n/a	0.50	n/a	
27	15	0.82	365.75	366.13	0.37	0.29	2.65	0.13	366.25	0.000	118.109366.45	366.80	0.35**	0.29	2.86	0.13	366.93	0.000	0.000	n/a	1.00	0.13	
28	15	2.21	361.05	361.66	0.61	0.57	3.73	0.23	361.90	0.000	32.507	361.25	361.84	0.59**	0.57	3.85	0.23	362.07	0.000	0.000	n/a	1.00	0.23
29	15	1.43	358.10	358.56	0.46*	0.41	3.52	0.18	358.74	0.000	24.500	358.25	358.72	0.47**	0.43	3.37	0.18	358.90	0.000	0.000	n/a	1.13	n/a
30	15	0.54	358.35	358.72	0.37	0.21	1.75	0.10	358.82	0.000	46.315	359.50	359.79 j	0.29**	0.21	2.55	0.10	359.89	0.000	0.000	n/a	1.00	n/a
31	15	0.51	356.25	356.59	0.34	0.20	1.90	0.10	356.69	0.000	52.252	357.90	358.18 j	0.28**	0.20	2.52	0.10	358.28	0.000	0.000	n/a	1.00	0.10
32	15	1.19	356.25	356.53	0.28*	0.20	5.91	0.16	356.68	0.000	26.744	357.05	357.48	0.43**	0.37	3.18	0.16	357.64	0.000	0.000	n/a	1.00	n/a
33	30	14.76	346.72	347.92	1.20*	2.32	6.35	0.52	348.43	0.000	71.386	347.15	348.44	1.29**	2.56	5.76	0.52	348.96	0.000	0.000	n/a	0.50	0.26
34	30	14.74	347.25	348.48	1.23*	2.40	6.13	0.51	348.99	0.000	74.288	347.65	348.95	1.29**	2.56	5.75	0.51	349.46	0.000	0.000	n/a	1.49	0.77
35	30	14.68	347.75	348.95	1.20	2.32	6.33	0.51	349.46	0.000	32.488	347.95	349.24	1.29**	2.55	5.75	0.51	349.75	0.000	0.000	n/a	1.07	0.55
36	30	14.16	348.05	349.28	1.23*	2.41	5.87	0.50	349.78	0.000	49.900	348.30	349.57	1.27**	2.50	5.68	0.50	350.07	0.000	0.000	n/a	1.69	0.85
37	30	12.76	348.40	349.57	1.17	2.25	5.68	0.47	350.03	0.000	101.340348.95	350.15	1.20**	2.33	5.48	0.47	350.62	0.000	0.000	n/a	0.92	0.43	
38	30	12.51	349.05	350.16	1.11*	2.10	5.96	0.46	350.62	0.000	52.810	349.35	350.54	1.19**	2.30	5.45	0.46	351.00	0.000	0.000	n/a	2.01	n/a
39	15	1.07	353.15	353.39	0.24*	0.16	6.57	0.15	353.54	0.000	52.750	355.45	355.86	0.41**	0.35	3.09	0.15	356.01	0.000	0.000	n/a	1.29	0.19
40	15	0.61	355.55	355.86	0.30	0.23	2.64	0.11	355.97	0.000	24.500	355.70	356.00	0.30**	0.23	2.64	0.11	356.11	0.000	0.000	n/a	1.00	0.11
41	24	11.84	349.45	350.71	1.26*	2.08	5.69	0.50	351.21	0.526	180.440350.40	351.66	1.26	2.08	5.68	0.50	352.16	0.526	0.526	0.949	1.50	0.75	
42	18	6.02	350.90	352.41	1.50	1.77	3.41	0.18	352.59	0.329	74.492	351.50	352.57	1.07	1.35	4.45	0.31	352.88	0.443	0.386	0.288	0.68	0.21
43	15	5.02	351.75	352.78	1.03	0.96	4.63	0.43	353.21	0.000	86.876	353.80	354.71 j	0.91**	0.96	5.26	0.43	355.14	0.000	0.000	n/a	0.74	0.32
44	15	3.32	353.90	354.71	0.81	0.75	3.96	0.31	355.01	0.000	92.700	356.60	357.33 j	0.73**	0.75	4.43	0.31	357.64	0.000	0.000	n/a	1.00	n/a

Project File: Storm System 500.stm

Number of lines: 54

Run Date: 1/27/2021

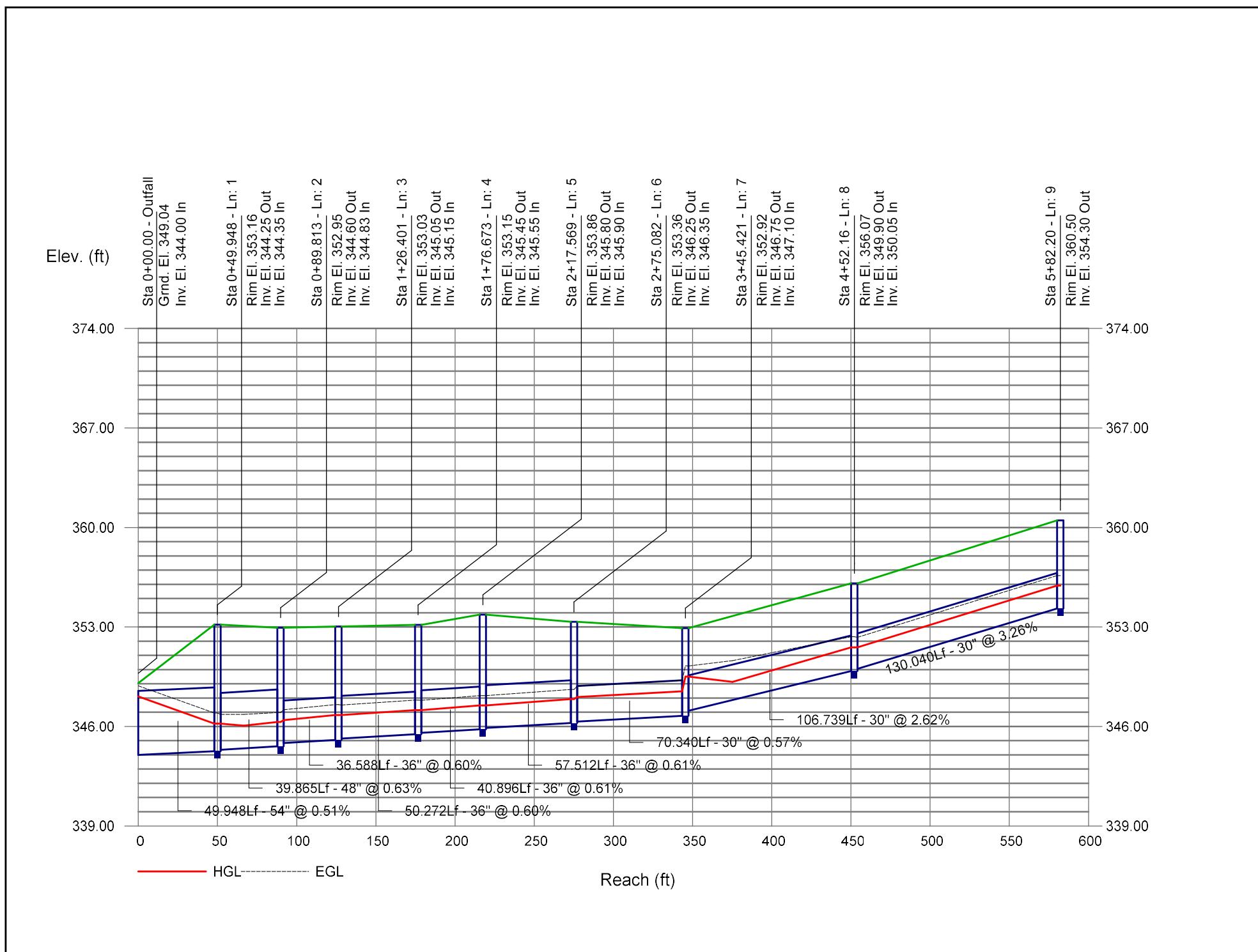
Notes: * Normal depth assumed; ** Critical depth.; j-Line contains hyd. jump ; c = cir e = ellip b = box

Hydraulic Grade Line Computations

Line	Size (in)	Q (cfs)	Downstream							Len (ft)	Upstream							Check		JL coeff	Minor loss (ft)		
			Invert elev (ft)	HGL elev (ft)	Depth (ft)	Area (sqft)	Vel (ft/s)	Vel head (ft)	EGL elev (ft)		Invert elev (ft)	HGL elev (ft)	Depth (ft)	Area (sqft)	Vel (ft/s)	Vel head (ft)	EGL elev (ft)	Sf (%)	Ave Sf (%)	Energy loss (ft)			
45	15	2.07	351.26	352.41	1.15	0.55	1.75	0.22	352.63	0.000	29.295	351.64	352.21	0.57**	0.55	3.77	0.22	352.43	0.000	0.000	n/a	1.00	0.22
46	15	0.89	351.60	351.95	0.35*	0.29	3.14	0.13	352.08	0.000	32.503	351.80	352.17	0.37**	0.30	2.93	0.13	352.30	0.000	0.000	n/a	1.00	0.13
47	15	1.48	350.50	350.96	0.46*	0.41	3.59	0.18	351.14	0.000	24.260	350.65	351.13	0.48**	0.44	3.40	0.18	351.31	0.000	0.000	n/a	1.00	n/a
48	15	1.51	349.40	349.70	0.30*	0.23	6.65	0.18	349.88	0.000	31.147	350.46	350.95	0.49**	0.44	3.42	0.18	351.13	0.000	0.000	n/a	1.00	0.18
49	15	0.55	348.40	349.51	1.11	0.21	0.48	0.10	349.61	0.000	39.995	348.65	348.94	0.29**	0.21	2.56	0.10	349.04	0.000	0.000	n/a	1.00	n/a
50	24	5.06	344.80	346.32	1.51	1.16	1.98	0.30	346.61	0.000	45.564	345.05	345.84	0.79**	1.16	4.37	0.30	346.13	0.000	0.000	n/a	1.10	n/a
51	18	4.98	345.30	346.16	0.86*	1.04	4.76	0.35	346.51	0.575	121.617	346.00	346.86 j	0.86**	1.05	4.74	0.35	347.21	0.571	0.573	0.697	1.18	0.41
52	18	4.39	346.10	347.27	1.17	0.96	2.96	0.32	347.59	0.000	39.979	346.40	347.20	0.80**	0.96	4.56	0.32	347.52	0.000	0.000	n/a	1.37	0.44
53	15	3.81	346.70	347.54	0.85*	0.89	4.30	0.29	347.83	0.539	65.834	347.05	347.90	0.85	0.89	4.30	0.29	348.19	0.540	0.540	0.355	0.50	0.14
54	15	2.16	347.15	348.04	0.89	0.94	2.31	0.08	348.12	0.152	59.959	347.45	348.11	0.66	0.66	3.26	0.17	348.28	0.366	0.259	0.155	1.00	0.17
Project File: Storm System 500.stm											Number of lines: 54							Run Date: 1/27/2021					
Notes: * Normal depth assumed; ** Critical depth.; j-Line contains hyd. jump ; c = cir e = ellip b = box																							

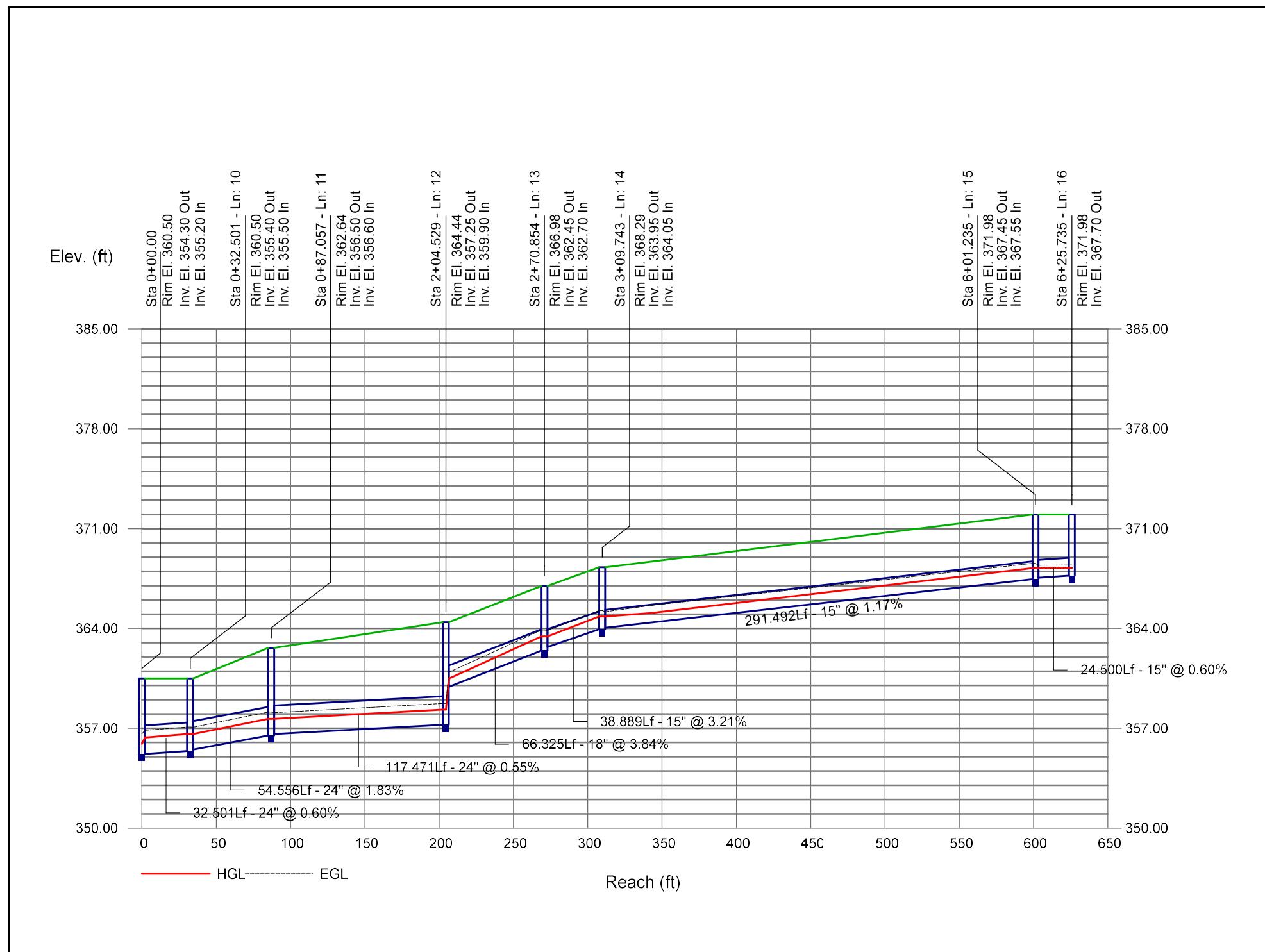
Storm Sewer Profile

Proj. file: Storm System 500.stm



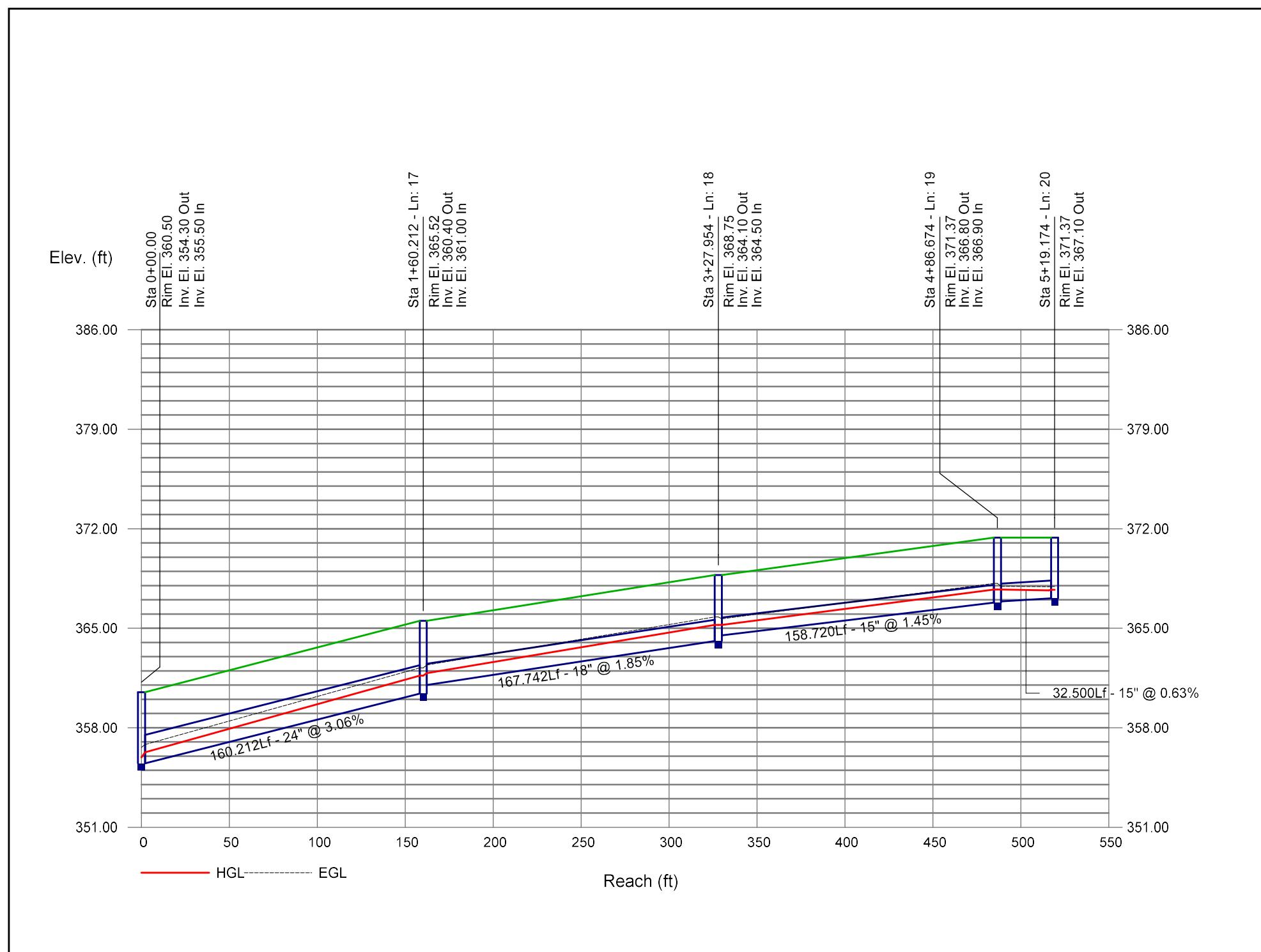
Storm Sewer Profile

Proj. file: Storm System 500.stm



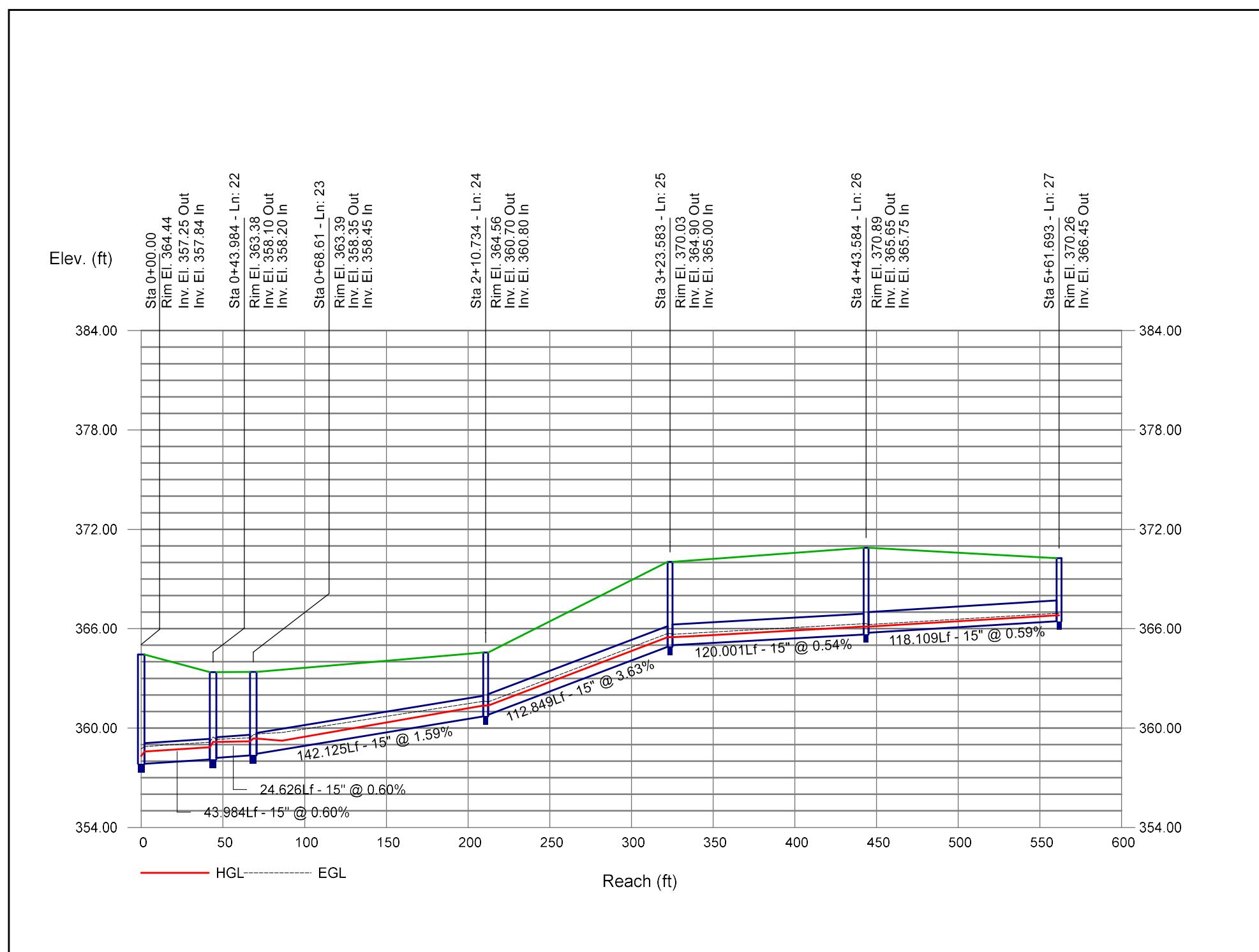
Storm Sewer Profile

Proj. file: Storm System 500.stm



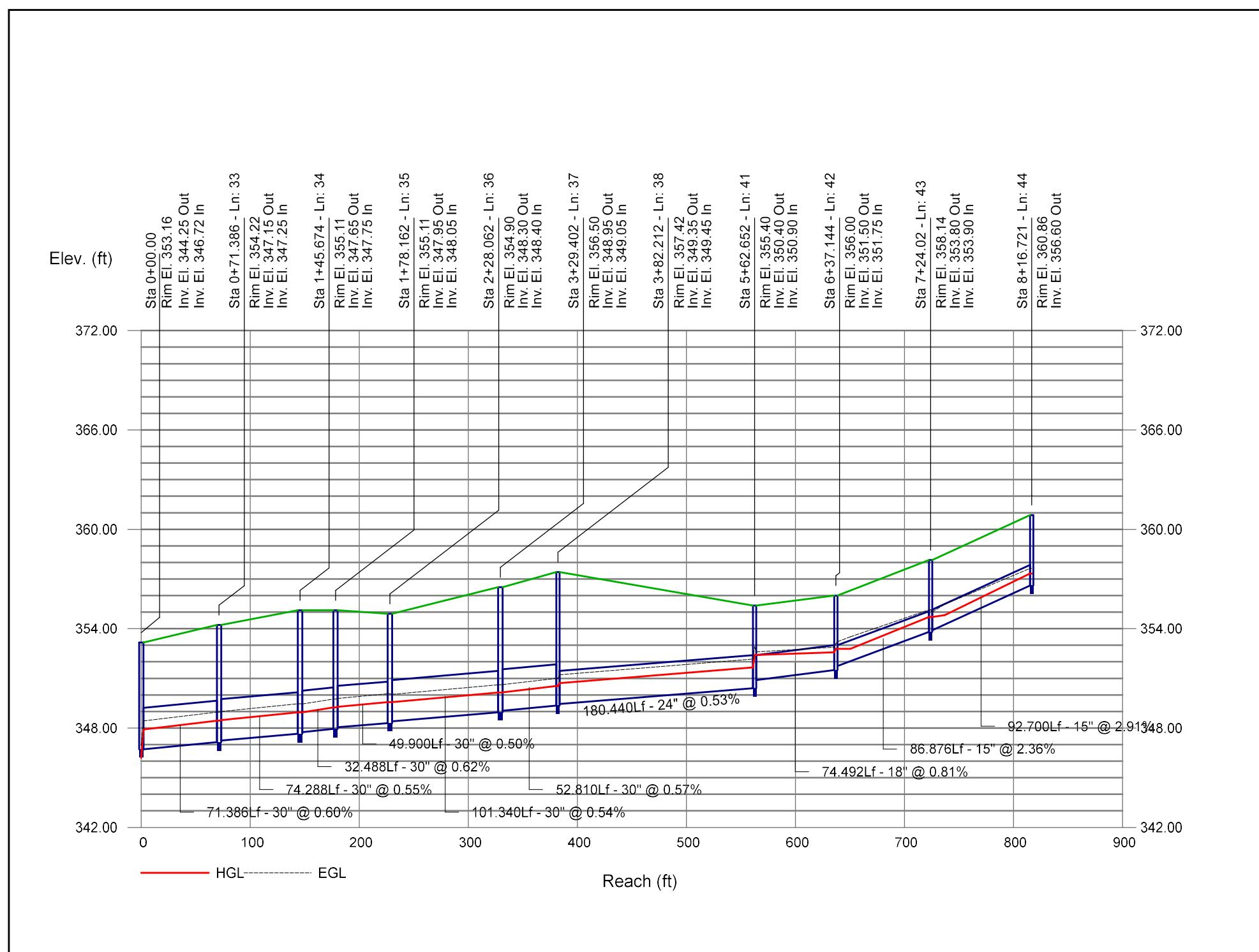
Storm Sewer Profile

Proj. file: Storm System 500.stm



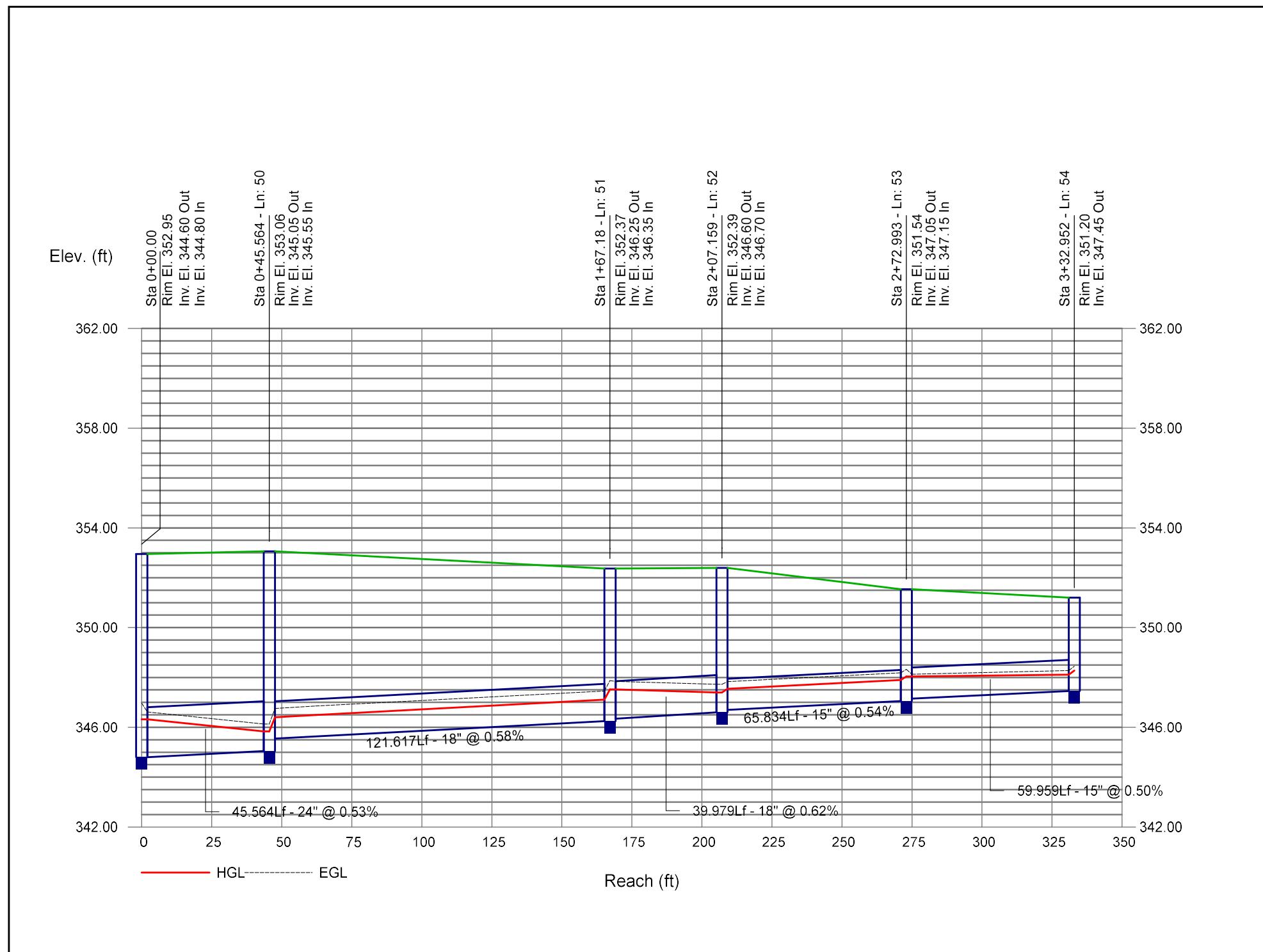
Storm Sewer Profile

Proj. file: Storm System 500.stm



Storm Sewer Profile

Proj. file: Storm System 500.stm



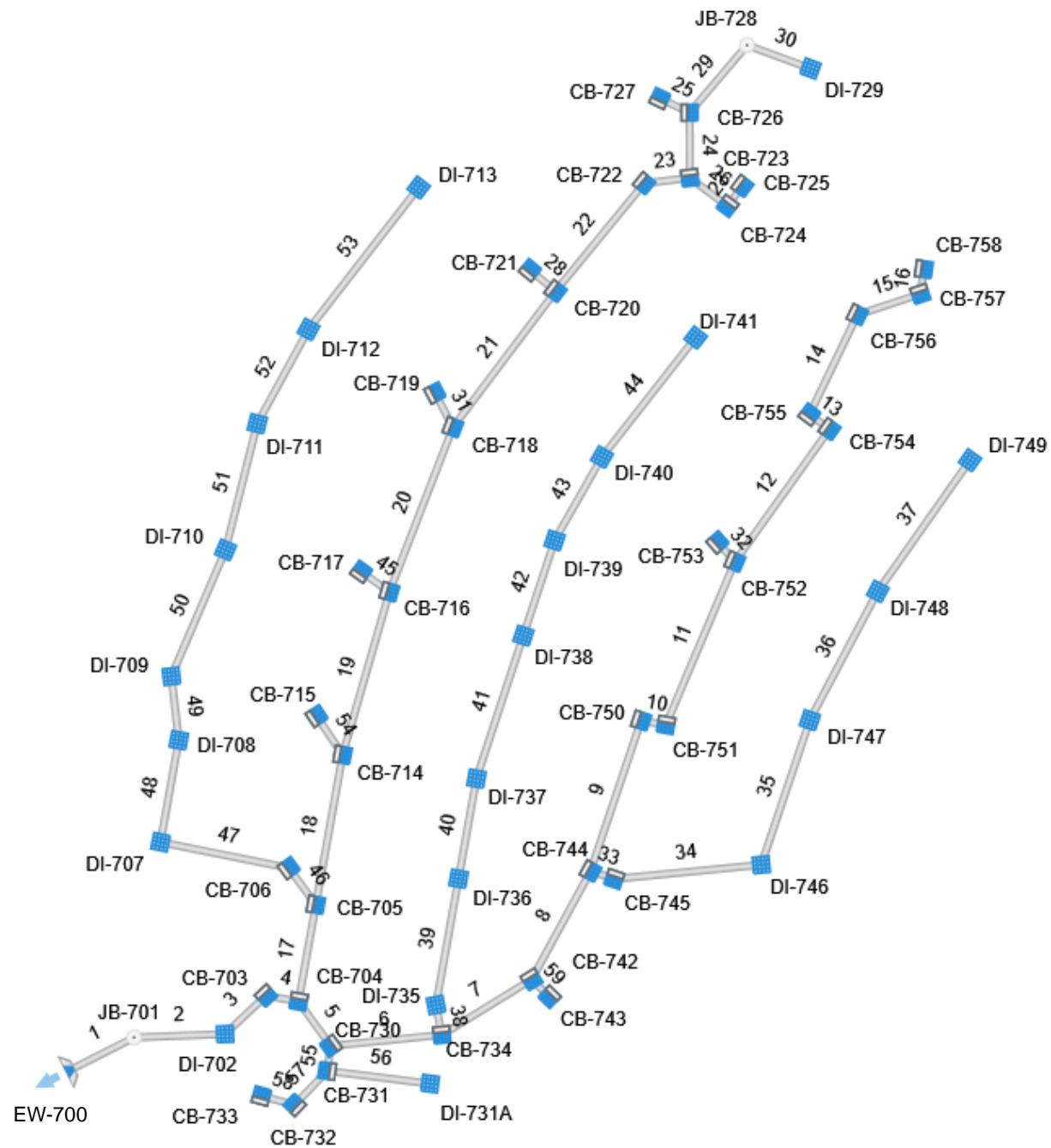
SYSTEM 700 – REPORTS AND PROFILES

Plan View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 700

02-21-2022



Storm Sewer Tabulation

Stormwater Studio 2022 v 3.0.0.29
Project Name: Storm System 700
02-21-2022

Project File: Storm System 700.sws

Line ID	Length (ft)	Drng Area		C x A		Tc		Intensity	Q	Capacity (cfs)	Velocity (ft/s)	Line		Invert Elev		HGL Elev		Surface Elev		Line No	
		Incr (ac)	Total (ac)	Incr (C)	Total (C)	Inlet (min)	Syst (min)					Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)		
700-701	66.20	0.000	14.490	0.00	0.00	9.82	0.0	8.78	6.13	60.18	258.21	3.54	60	0.98	330.65	330.00	334.40	334.43	338.25	335.58	1
701-702	89.55	0.040	14.490	0.35	0.01	9.82	5.0	8.62	6.17	60.56	117.58	5.38	48	0.67	331.35	330.75	334.47	334.44	338.50	338.25	2
702-703	55.22	0.190	14.450	0.85	0.16	9.80	5.0	8.51	6.19	60.72	105.88	5.87	48	0.54	331.75	331.45	334.69	334.67	342.28	338.50	3
703-704	32.50	0.170	14.260	0.75	0.13	9.64	5.0	8.45	6.21	59.86	112.68	5.95	48	0.62	332.05	331.85	334.94	334.95	342.28	342.28	4
704-730	53.94	0.020	8.630	0.90	0.02	5.66	5.0	7.94	6.33	35.87	75.03	3.97	42	0.56	332.45	332.15	335.43	335.41	341.91	342.28	5
730-734	109.78	0.090	7.790	0.85	0.08	5.07	5.0	7.70	6.39	32.40	77.42	4.15	42	0.59	333.20	332.55	335.58	335.57	340.73	341.91	6
734-742	103.90	0.430	4.120	0.55	0.24	2.81	5.0	7.43	6.46	18.19	50.68	3.27	36	0.58	333.90	333.30	335.87	335.85	339.94	340.73	7
742-744	121.34	0.160	3.210	0.75	0.12	2.22	5.0	7.11	6.55	14.52	32.24	4.63	30	0.62	334.75	334.00	336.03	335.97	341.17	339.94	8
744-750	156.13	0.200	1.190	0.75	0.15	0.90	5.0	6.77	6.65	5.98	14.31	6.26	18	1.86	339.55	336.65	340.48	337.35	344.23	341.17	9
750-751	24.78	0.180	0.990	0.75	0.14	0.75	5.0	6.68	6.67	5.01	8.17	3.83	18	0.61	339.80	339.65	340.78	340.76	344.30	344.23	10
751-752	174.34	0.160	0.810	0.75	0.12	0.62	5.0	6.27	6.79	4.18	8.95	5.91	15	1.92	343.40	340.05	344.22	340.67	347.78	344.30	11
752-754	160.11	0.190	0.490	0.75	0.14	0.38	5.0	5.83	6.92	2.60	8.62	3.23	15	1.78	346.35	343.50	347.00	344.53	350.94	347.78	12
754-755	24.50	0.110	0.300	0.75	0.08	0.23	5.0	5.72	6.95	1.62	5.05	2.42	15	0.61	346.60	346.45	347.21	347.20	350.94	350.94	13
755-756	108.78	0.010	0.190	0.85	0.01	0.15	5.0	5.35	7.07	1.06	8.97	2.39	15	1.93	348.80	346.70	349.21	347.31	353.14	350.94	14
756-757	65.25	0.070	0.180	0.85	0.06	0.14	5.0	5.15	7.14	1.01	10.42	3.96	15	2.61	350.60	348.90	351.00	349.18	355.05	353.14	15
757-758	24.63	0.110	0.110	0.75	0.08	0.08	5.0	5.00	7.19	0.59	5.00	2.60	15	0.60	350.85	350.70	351.16	350.99	355.12	355.05	16
704-705	96.69	0.170	5.460	0.70	0.12	3.85	5.0	8.22	6.26	24.12	52.54	6.65	36	0.62	335.25	334.65	336.82	336.15	342.85	342.28	17
705-714	149.67	0.190	3.080	0.75	0.14	2.29	5.0	7.82	6.36	14.57	17.54	6.24	24	0.60	337.95	337.05	339.34	338.44	344.39	342.85	18
714-716	166.79	0.200	2.720	0.75	0.15	2.02	5.0	7.36	6.48	13.10	17.51	6.16	24	0.60	339.05	338.05	340.33	339.33	346.13	344.39	19
716-718	173.50	0.190	2.300	0.75	0.14	1.71	5.0	6.86	6.62	11.28	17.60	5.84	24	0.61	340.20	339.15	341.39	340.32	347.95	346.13	20
718-720	167.68	0.160	1.930	0.75	0.12	1.43	5.0	6.37	6.76	9.65	17.47	4.72	24	0.60	341.30	340.30	342.40	341.74	347.91	347.95	21
720-722	137.27	0.030	1.560	0.90	0.03	1.15	5.0	5.94	6.89	7.92	17.27	5.17	24	0.58	342.20	341.40	343.20	342.36	351.12	349.71	22

Notes: IDF File = The Point.IDF, Return Period = 10-yr.

Project File: Storm System 700.sws

Storm Sewer Tabulation

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 700

02-21-2022

Line ID	Length (ft)	Drng Area		C x A		Tc		Intensity	Capacity (cfs)	Velocity (ft/s)	Line		Invert Elev		HGL Elev		Surface Elev		Line No		
		Incr (ac)	Total (ac)	Incr (C)	Total (C)	Inlet (min)	Syst (min)				Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)			
722-723	45.36	0.010	1.530	0.90	0.01	1.12	5.0	5.81	6.93	7.78	18.39	5.16	24	0.66	342.60	342.30	343.59	343.25	350.90	351.12	23
723-726	64.18	0.180	1.060	0.85	0.15	0.76	5.0	5.59	6.99	5.28	8.29	4.94	18	0.62	343.25	342.85	344.13	343.72	351.93	350.90	24
726-727	32.49	0.150	0.150	0.85	0.13	0.13	5.0	5.00	7.19	0.92	4.94	2.93	15	0.58	347.68	347.49	348.07	347.86	351.93	351.93	25
723-724	46.14	0.140	0.460	0.85	0.12	0.36	5.0	5.11	7.15	2.57	4.94	4.04	15	0.59	346.23	345.96	346.87	346.60	350.73	350.90	26
724-725	24.50	0.320	0.320	0.75	0.24	0.24	5.0	5.00	7.19	1.72	5.05	2.32	15	0.61	346.48	346.33	347.15	347.14	350.73	350.73	27
720-721	32.50	0.210	0.210	0.75	0.16	0.16	5.0	5.00	7.19	1.13	5.07	3.15	15	0.62	345.45	345.25	345.88	345.66	349.71	349.71	28
726-728	87.10	0.000	0.730	0.00	0.00	0.47	0.0	0.25	7.10	3.37	4.91	3.63	15	0.58	343.85	343.35	344.63	344.41	351.24	351.93	29
728-729	66.54	0.730	0.730	0.65	0.47	0.47	5.0	5.00	7.19	3.41	5.00	3.41	15	0.60	344.35	343.95	345.19	345.06	346.80	351.24	30
718-719	38.16	0.180	0.180	0.75	0.14	0.14	5.0	5.00	7.19	0.97	5.23	3.04	15	0.66	343.90	343.65	344.29	344.02	348.16	347.95	31
752-753	25.55	0.160	0.160	0.75	0.12	0.12	5.0	5.00	7.19	0.86	4.95	0.82	15	0.59	343.65	343.50	344.59	344.59	347.93	347.78	32
744-745	24.50	0.150	0.1860	0.75	0.11	1.20	5.0	6.55	6.71	8.03	17.70	3.06	24	0.61	335.00	334.85	336.49	336.48	341.17	341.17	33
745-746	145.43	0.310	1.710	0.65	0.20	1.08	5.0	6.07	6.85	7.42	8.04	4.76	18	0.59	335.95	335.10	337.09	336.46	340.55	341.17	34
746-747	150.00	0.390	1.400	0.65	0.25	0.88	5.0	5.74	6.95	6.13	13.69	4.39	18	1.70	338.60	336.05	339.55	337.46	343.80	340.55	35
747-748	143.15	0.460	1.010	0.65	0.30	0.63	5.0	5.44	7.04	4.43	10.24	6.35	15	2.51	342.50	338.90	343.34	339.50	346.70	343.80	36
748-749	157.73	0.550	0.550	0.60	0.33	0.33	5.0	5.00	7.19	2.37	8.60	3.01	15	1.77	345.40	342.60	346.01	343.69	349.85	346.70	37
734-735	29.91	0.260	3.580	0.65	0.17	2.18	5.0	6.88	6.61	14.39	18.47	6.40	24	0.67	335.70	335.50	337.05	336.85	339.50	340.73	38
735-736	126.13	0.310	3.320	0.65	0.20	2.01	5.0	6.53	6.71	13.47	17.40	5.48	24	0.59	336.55	335.80	337.85	337.49	340.05	339.50	39
736-737	100.00	0.910	3.010	0.60	0.55	1.81	5.0	6.25	6.79	12.27	17.52	5.99	24	0.60	337.25	336.65	338.50	337.89	340.10	340.05	40
737-738	147.93	0.240	2.100	0.60	0.14	1.26	5.0	5.92	6.89	8.69	12.20	6.67	18	1.35	339.70	337.70	340.82	338.66	343.08	340.10	41
738-739	98.55	0.700	1.860	0.60	0.42	1.12	5.0	5.66	6.97	7.78	10.32	5.17	18	0.97	340.75	339.80	341.82	341.20	343.35	343.08	42
739-740	94.30	0.690	1.160	0.60	0.41	0.70	5.0	5.42	7.05	4.91	7.57	4.69	15	1.37	342.30	341.00	343.18	342.17	345.20	343.35	43
740-741	149.35	0.470	0.470	0.60	0.28	0.28	5.0	5.00	7.19	2.03	8.99	2.70	15	1.94	345.30	342.40	345.87	343.59	348.25	345.20	44

Notes: IDF File = The Point.IDF, Return Period = 10-yr.

Project File: Storm System 700.sws

Storm Sewer Tabulation

Stormwater Studio 2022 v 3.0.0.29
Project Name: Storm System 700
02-21-2022

Project Name: Storm System 700

Line ID	Length (ft)	Drng Area		C x A		Tc		Intensity (in/hr)	Capacity (cfs)	Velocity (ft/s)	Line		Invert Elev		HGL Elev		Surface Elev		Line No	
		Incr (ac)	Total (ac)	Incr (C)	Total (C)	Inlet (min)	Syst (min)				Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)		
716-717	34.17	0.220	0.220	0.75	0.17	5.0	5.00	7.19	1.19	4.94	3.17	15	0.59	342.00	341.80	342.44	342.22	346.13	45	
705-706	44.85	0.170	2.210	0.70	0.12	1.44	5.0	7.67	6.40	9.24	16.89	3.00	24	0.56	335.60	335.35	337.45	337.38	343.17	46
706-707	128.90	0.010	2.040	0.45	0.00	1.32	5.0	7.29	6.50	8.61	18.83	4.03	24	0.69	336.60	335.70	337.64	337.52	343.50	47
707-708	101.91	0.400	2.030	0.65	0.26	1.32	5.0	6.99	6.58	8.69	18.08	5.39	24	0.64	337.35	336.70	338.39	337.70	341.65	48
708-709	63.24	0.310	1.630	0.65	0.20	1.06	5.0	6.79	6.64	7.03	8.35	5.30	18	0.63	337.85	337.45	338.90	338.50	342.95	49
709-710	135.20	0.160	1.320	0.65	0.10	0.86	5.0	6.33	6.77	5.81	8.08	4.18	18	0.59	338.75	337.95	339.70	339.32	345.80	50
710-711	128.00	0.160	1.160	0.65	0.10	0.75	5.0	5.89	6.90	5.20	8.03	4.90	18	0.58	339.60	338.85	340.47	339.72	345.82	51
711-712	105.51	0.640	1.000	0.65	0.42	0.65	5.0	5.51	7.02	4.56	5.08	4.68	15	0.62	340.50	339.85	341.43	340.77	343.63	52
712-713	176.71	0.360	0.65	0.23	0.23	5.0	5.00	7.19	1.68	9.28	2.43	15	2.07	344.25	340.60	344.77	340.47	345.80	53	
714-715	45.97	0.170	0.170	0.75	0.13	0.13	5.0	5.00	7.19	0.92	5.22	3.00	15	0.65	340.45	340.15	340.83	340.51	344.72	54
730-731	24.84	0.060	0.820	0.85	0.05	0.58	5.0	5.49	7.03	4.07	5.02	4.55	15	0.60	337.60	337.45	338.45	338.30	341.96	55
731-731A	102.06	0.270	0.270	0.65	0.18	0.18	5.0	5.00	7.19	1.26	5.15	2.30	15	0.64	338.60	337.95	339.05	338.80	341.30	56
731-732	46.32	0.290	0.490	0.70	0.20	0.35	5.0	5.17	7.13	2.52	7.65	3.14	15	1.40	338.35	337.70	338.98	338.77	343.03	57
732-733	33.86	0.200	0.200	0.75	0.15	0.15	5.0	5.00	7.19	1.08	4.96	1.67	15	0.59	338.65	338.45	339.22	339.00	343.03	58
742-743	24.50	0.480	0.480	0.75	0.36	0.36	5.0	5.00	7.19	2.59	5.05	4.08	15	0.61	335.70	336.35	336.19	339.94	339.94	59

Notes: IDF File = The Point.IDF, Return Period = 10-yr.

Project File: Storm System 700.sws

Energy Grade Line Calculations

Project Name: Storm System 700

Stormwater Studio 2022 v 3.0.0.29

02-21-2022

Line No	Line Size (in)	Q (cfs)	Downstream						Upstream						Pipe			Junction				
			Invert Elev (ft)	Depth (ft)	Area (sqft)	HGL Elev (ft)	Vel Head (ft)	EGL Elev (ft)	Invert Elev (ft)	Depth (ft)	Area (sqft)	HGL Elev (ft)	Vel Head (ft/s)	EGL Elev (ft)	n Value	Energy Loss (ft)	HGLa Elev (ft)	EGLa Elev (ft)	Energy Loss (ft)			
1	60	60.18	330.00	4.43	18.40	334.43	3.27	0.17	334.60	66.20	330.65	3.75	15.82	334.40	3.81	0.23	334.63	0.013	0.033	334.46	334.68	0.05
2	48	60.56	330.75	3.68	12.11	334.44	5.00	0.39	334.82	89.55	331.35	3.12	10.50	334.47	5.77	0.52	334.98	0.013	0.158	334.48	335.00	0.02
3	48	60.72	331.45	3.22	10.84	334.67	5.60	0.49	335.16	55.22	331.75	2.94	9.89	334.69	6.14	0.59	335.27	0.013	0.115	334.71	335.30	0.02
4	48	59.86	331.85	3.10	10.44	334.95	5.74	0.51	335.46	32.50	332.05	2.89	9.71	334.94	6.16	0.59	335.53	0.013	0.071	334.96	335.55	0.02
5	42	35.87	332.15	3.26	9.33	335.41	3.85	0.23	335.64	53.94	332.45	2.98	8.74	335.43	4.10	0.26	335.70	0.013	0.060	335.44	335.70	0.01
6	42	32.40	332.55	3.02	8.83	335.57	3.67	0.21	335.78	109.78	333.20	2.38	6.98	335.58	4.64	0.33	335.92	0.013	0.139	335.60	335.93	0.01
7	36	18.19	333.30	2.55	6.41	335.85	2.84	0.13	335.98	103.90	333.90	1.97	4.91	335.87	3.70	0.21	336.08	0.013	0.102	335.88	336.09	0.01
8	30	14.52	334.00	1.97	4.14	335.97	3.51	0.19	336.16	121.34	334.75	1.28	5.53	336.03	5.74	0.51	336.54	0.013	0.386	336.06	336.57	0.03
9	18	5.98	336.65	0.70‡	0.82	337.35	7.34	0.84	338.00	156.13	339.55	0.93 ²	1.16	340.48	5.18	0.42	340.90	0.013	2.900	340.48	340.90	0.00
10	18	5.01	339.65	1.11	1.40	340.76	3.57	0.20	340.96	24.78	339.80	0.98	1.23	340.78	4.08	0.26	341.04	0.013	0.084	340.82	341.08	0.04
11	15	4.18	340.05	0.62‡	0.61	340.67	6.90	0.74	341.25	174.34	343.40	0.82 ²	0.85	344.22	4.91	0.37	344.59	0.013	3.343	344.22	344.59	0.00
12	15	2.60	343.50	1.03	1.08	344.53	2.40	0.09	344.62	160.11	346.35	0.65 ²	0.64	347.00	4.07	0.26	347.25	0.013	2.630	347.00	347.25	0.00
13	15	1.62	346.45	0.75	0.77	347.20	2.09	0.07	347.27	24.50	346.60	0.61	0.59	347.21	2.75	0.12	347.32	0.013	0.051	347.23	347.35	0.03
14	15	1.06	346.70	0.61	0.60	347.31	1.78	0.05	347.36	108.78	348.80	0.41 ²	0.35	349.21	3.01	0.14	349.35	0.013	1.992	349.21	349.35	0.00
15	15	1.01	348.90	0.28‡	0.20	349.18	4.95	0.38	349.44	65.25	350.60	0.40 ²	0.34	351.00	2.96	0.14	351.14	0.013	1.700	351.00	351.14	0.00
16	15	0.59	350.70	0.29‡	0.22	350.99	2.71	0.11	351.15	24.63	350.85	0.31	0.24	351.16	2.49	0.10	351.26	0.013	0.110	351.22	351.31	0.06
17	36	24.12	334.65	1.50‡	3.53	336.15	6.83	0.73	336.87	96.69	335.25	1.57 ²	3.73	336.82	6.47	0.65	337.47	0.013	0.600	336.82	337.47	0.00
18	24	14.57	337.05	1.39 ³	2.33	338.44	6.24	0.61	339.05	149.67	337.95	1.39	2.34	339.34	6.23	0.60	339.95	0.013	0.900	339.40	340.01	0.06
19	24	13.10	338.05	1.28‡	2.12	339.33	6.17	0.59	340.11	166.79	339.05	1.28 ²	2.13	340.33	6.16	0.59	340.92	0.013	0.809	340.33	340.92	0.00
20	24	11.28	339.15	1.17‡	1.92	340.32	5.89	0.54	341.01	173.50	340.20	1.19 ²	1.95	341.39	5.79	0.52	341.91	0.013	0.904	341.39	341.91	0.00
21	24	9.65	340.30	1.44	2.41	341.74	4.00	0.25	341.98	167.68	341.30	1.10 ²	1.77	342.40	5.45	0.46	342.86	0.013	0.878	342.40	342.86	0.00
22	24	7.92	341.40	0.96‡	1.50	342.36	5.28	0.43	342.92	137.27	342.20	1.00 ²	1.56	343.20	5.06	0.40	343.60	0.013	0.676	343.20	343.60	0.00

Notes: Return Period = 10-yr. ² Critical depth. ³ Normal depth. ‡ Supercritical.

Project File: Storm System 700.sws

Energy Grade Line Calculations

Project Name: Storm System 700

Stormwater Studio 2022 v 3.0.0.29

02-21-2022

Line No	Line Size (in)	Q (cfs)	Downstream						Upstream						Pipe			Junction				
			Invert Elev (ft)	Depth (ft)	Area (sqft)	HGL Elev (ft)	Vel Head (ft)	EGL Elev (ft)	Invert Elev (ft)	Depth (ft)	Area (sqft)	HGL Elev (ft)	Vel Head (ft/s)	EGL Elev (ft)	n Value	Energy Loss (ft)	HGLa Elev (ft)	EGLa Elev (ft)	Energy Loss (ft)			
23	24	7.78	342.30	0.95‡	1.47	343.25	5.29	0.44	343.68	45.36	342.60	0.99 ²	1.55	343.59	5.03	0.39	343.98	0.013	343.59	343.98	0.00	
24	18	5.28	342.85	0.87‡	1.07	343.72	4.95	0.38	344.13	64.18	343.25	0.88 ²	1.07	344.13	4.92	0.38	344.50	0.013	344.13	344.50	0.00	
25	15	0.92	347.49	0.37‡	0.30	347.86	3.02	0.14	348.00	32.49	347.68	0.39	0.32	348.07	2.84	0.13	348.19	0.013	348.13	348.26	0.07	
26	15	2.57	345.96	0.64‡	0.63	346.60	4.06	0.26	346.86	46.14	346.23	0.64	0.64	346.87	4.02	0.25	347.13	0.013	346.93	347.19	0.06	
27	15	1.72	346.33	0.81	0.84	347.14	2.05	0.07	347.21	24.50	346.48	0.67	0.66	347.15	2.60	0.10	347.25	0.013	0.044	347.21	347.31	0.06
28	15	1.13	345.25	0.41‡	0.35	345.66	3.26	0.17	345.82	32.50	345.45	0.43	0.37	345.88	3.04	0.14	346.02	0.013	0.200	345.95	346.09	0.07
29	15	3.37	343.35	1.06	1.11	344.41	3.04	0.14	344.55	87.10	343.85	0.77	0.80	344.63	4.22	0.28	344.90	0.013	0.352	344.87	345.15	0.25
30	15	3.41	343.95	1.11	1.15	345.06	2.96	0.14	345.20	66.54	344.35	0.84	0.88	345.19	3.87	0.23	345.43	0.013	0.229	345.28	345.51	0.09
31	15	0.97	343.65	0.37‡	0.31	344.02	3.16	0.16	344.18	38.16	343.90	0.39 ²	0.33	344.29	2.92	0.13	344.43	0.013	0.250	344.29	344.43	0.00
32	15	0.86	343.50	1.09	1.13	344.59	0.76	0.01	344.60	25.55	343.65	0.94	0.99	344.59	0.87	0.01	344.60	0.013	0.005	344.60	344.61	0.01
33	24	8.03	334.85	1.63	2.74	336.48	2.92	0.13	336.61	24.50	335.00	1.49	2.51	336.49	3.19	0.16	336.65	0.013	0.035	336.50	336.66	0.01
34	18	7.42	335.10	1.37	1.69	336.46	4.39	0.30	336.76	145.43	335.95	1.14	1.45	337.09	5.14	0.41	337.50	0.013	0.739	337.18	337.59	0.08
35	18	6.13	336.05	1.41	1.73	337.46	3.55	0.20	337.66	150.00	338.60	0.95 ²	1.17	339.55	5.23	0.42	339.97	0.013	2.311	339.55	339.97	0.00
36	15	4.43	338.90	0.60‡	0.58	339.50	7.67	0.91	340.15	143.15	342.50	0.84 ²	0.88	343.34	5.04	0.39	343.74	0.013	3.589	343.34	343.74	0.00
37	15	2.37	342.60	1.09	1.14	343.69	2.09	0.07	343.76	157.73	345.40	0.62 ²	0.60	346.01	3.93	0.24	346.25	0.013	2.494	346.01	346.25	0.00
38	24	14.39	335.50	1.34 ¹	2.24	336.85	6.41	0.64	337.49	29.91	335.70	1.35	2.25	337.05	6.39	0.63	337.69	0.013	0.199	337.10	337.73	0.05
39	24	13.47	335.80	1.69	2.83	337.49	4.76	0.35	337.84	126.13	336.55	1.30	2.17	337.85	6.21	0.60	338.45	0.013	0.610	337.90	338.50	0.05
40	24	12.27	336.65	1.24‡	2.04	337.89	6.01	0.56	338.60	100.00	337.25	1.25	2.06	338.50	5.97	0.55	339.05	0.013	0.454	338.55	339.10	0.05
41	18	8.69	337.70	0.96‡	1.20	338.66	7.24	0.81	339.41	147.93	339.70	1.12 ²	1.42	340.82	6.11	0.58	341.40	0.013	1.997	340.82	341.40	0.00
42	18	7.78	339.80	1.40	1.72	341.20	4.53	0.32	341.52	98.55	340.75	1.06 ²	1.34	341.82	5.80	0.52	342.34	0.013	0.820	341.82	342.34	0.00
43	15	4.91	341.00	1.17	1.20	342.17	4.10	0.26	342.43	94.30	342.30	0.89 ²	0.93	343.18	5.27	0.43	343.61	0.013	1.180	343.18	343.61	0.00
44	15	2.03	342.40	1.19	1.20	343.59	1.68	0.04	343.63	149.35	345.30	0.57 ²	0.54	345.87	3.72	0.22	346.08	0.013	2.450	345.87	346.08	0.00

Notes: Return Period = 10-yr.¹ Critical depth.² Supercritical.

Project File: Storm System 700.sws

Energy Grade Line Calculations

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 700

02-21-2022

Line No	Line Size (in)	Q (cfs)	Downstream						Upstream						Pipe			Junction				
			Invert Elev (ft)	Depth (ft)	Area (sqft)	HGL Elev (ft)	Vel Head (ft)	EGL Elev (ft)	Invert Elev (ft)	Depth (ft)	Area (sqft)	HGL Elev (ft)	Vel Head (ft/s)	EGL Elev (ft)	n Value	Energy Loss (ft)	HGLa Elev (ft)	EGLa Elev (ft)	Energy Loss (ft)			
45	15	1.19	341.80	0.42‡	0.36	342.22	3.25	0.16	342.39	34.17	342.00	0.44	0.38	342.44	3.09	0.15	342.59	0.013	0.200	342.51	342.66	0.07
46	24	9.24	335.35	2.00	3.14	337.38	2.94	0.13	337.52	44.85	335.60	1.85	3.03	337.45	3.05	0.14	337.59	0.013	0.070	337.46	337.60	0.01
47	24	8.61	335.70	1.82	3.00	337.52	2.87	0.13	337.65	128.90	336.60	1.04	1.66	337.64	5.19	0.42	338.06	0.013	0.412	337.66	338.07	0.02
48	24	8.69	336.70	1.00‡	1.57	337.70	5.54	0.48	338.17	101.91	337.35	1.04 ²	1.66	338.39	5.24	0.43	338.82	0.013	0.652	338.39	338.82	0.00
49	18	7.03	337.45	1.06 ³	1.33	338.50	5.29	0.44	338.94	63.24	337.85	1.05	1.33	338.90	5.30	0.44	339.34	0.013	0.399	339.00	339.44	0.10
50	18	5.81	337.95	1.37	1.70	339.32	3.42	0.18	339.50	135.20	338.75	0.95	1.18	339.70	4.93	0.38	340.08	0.013	0.571	339.78	340.16	0.08
51	18	5.20	338.85	0.87‡	1.06	339.72	4.90	0.37	340.21	128.00	339.60	0.87 ²	1.06	340.47	4.89	0.37	340.84	0.013	0.625	340.47	340.84	0.00
52	15	4.56	339.85	0.93 ³	0.97	340.77	4.68	0.34	341.11	105.51	340.50	0.93	0.97	341.43	4.68	0.34	341.77	0.013	0.653	341.57	341.91	0.14
53	15	1.68	340.60	1.25	1.23	341.89	1.37	0.03	341.92	176.71	344.25	0.52 ²	0.48	344.77	3.49	0.19	344.96	0.013	3.041	344.77	344.96	0.00
54	15	0.92	340.15	0.36‡	0.29	340.51	3.12	0.15	340.66	45.97	340.45	0.38 ²	0.32	340.83	2.87	0.13	340.96	0.013	0.300	340.83	340.96	0.00
55	15	4.07	337.45	0.85 ³	0.89	338.30	4.55	0.32	338.63	24.84	337.60	0.85	0.89	338.45	4.55	0.32	338.78	0.013	0.150	338.50	338.82	0.04
56	15	1.26	337.95	0.85	0.89	338.80	1.42	0.03	338.83	102.06	338.60	0.45 ²	0.40	339.05	3.18	0.16	339.21	0.013	0.375	339.05	339.21	0.00
57	15	2.52	337.70	1.07	1.12	338.77	2.25	0.08	338.85	46.32	338.35	0.63 ²	0.63	338.98	4.02	0.25	339.24	0.013	0.388	338.98	339.24	0.00
58	15	1.08	338.45	0.77	0.79	339.22	1.37	0.03	339.25	33.86	338.65	0.57	0.55	339.22	1.97	0.06	339.28	0.013	0.035	339.25	339.31	0.03
59	15	2.59	335.55	0.64‡	0.63	336.19	4.12	0.26	336.45	24.50	335.70	0.65	0.64	336.35	4.04	0.25	336.60	0.013	0.150	336.50	336.76	0.16

Notes: Return Period = 10-yr. ² Critical depth. ³ Normal depth. ‡ Supercritical.

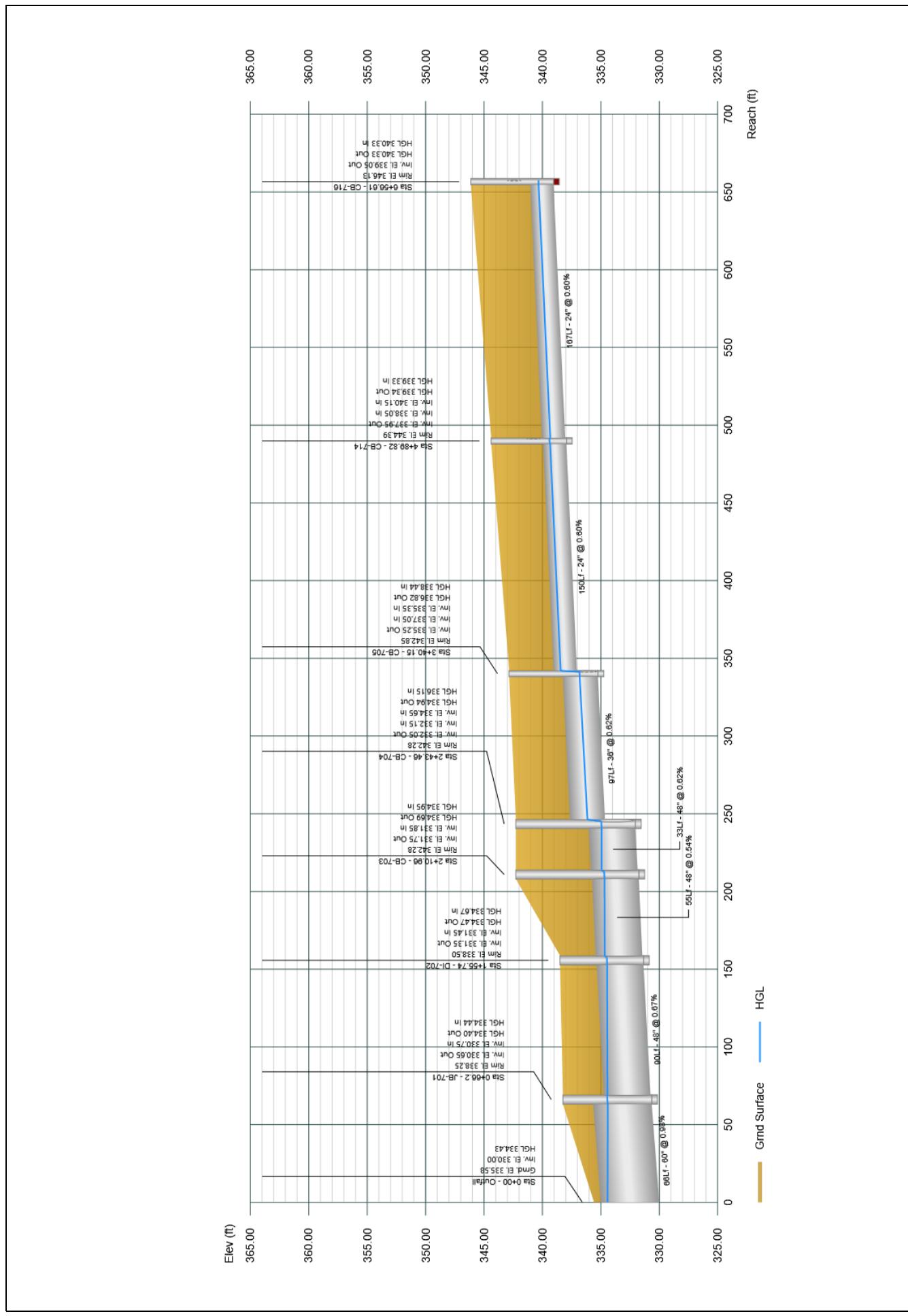
Project File: Storm System 700.sws

Profile View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 700

02-21-2022



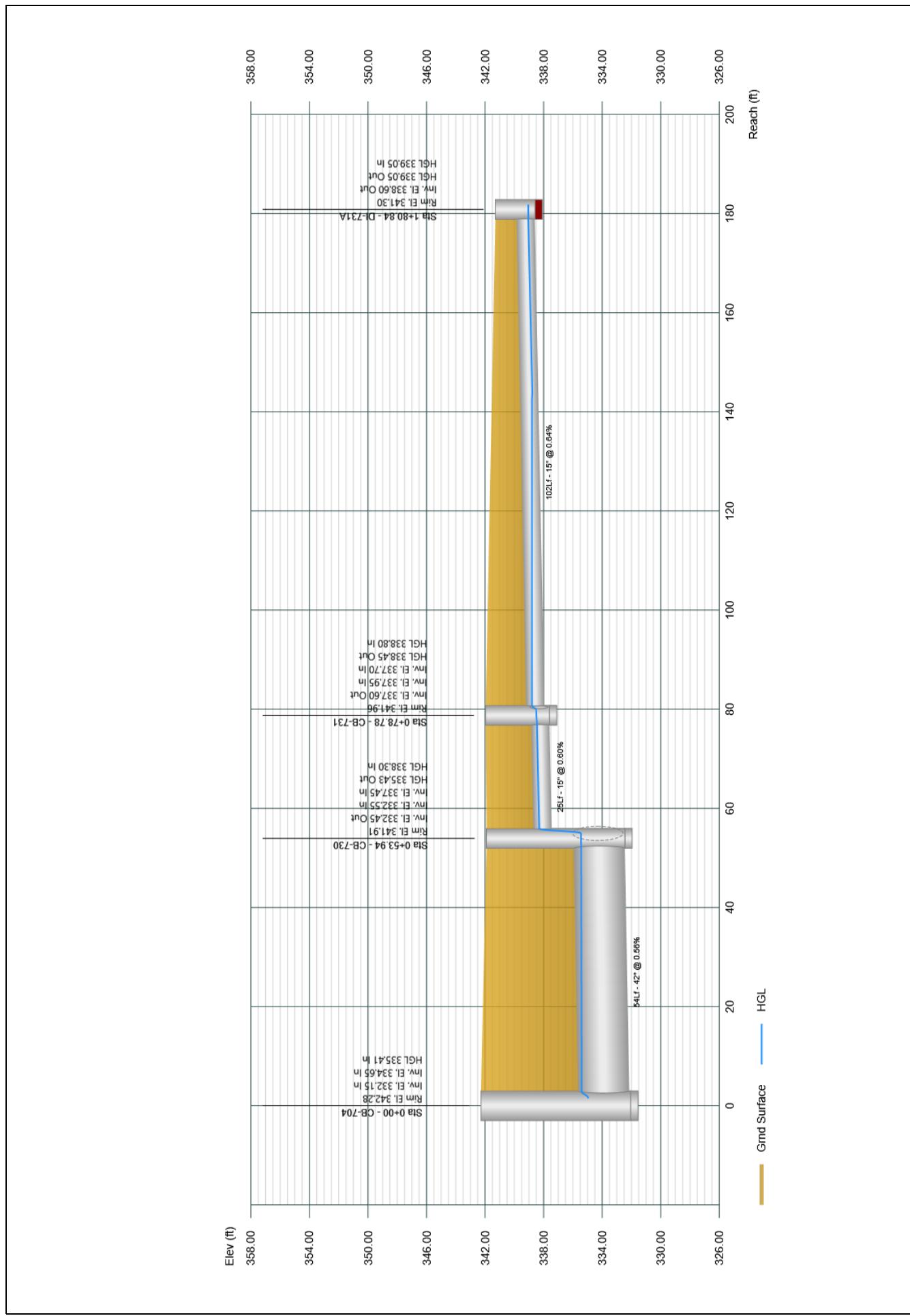
Project File: Storm System 700.sws

Profile View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 700

02-21-2022



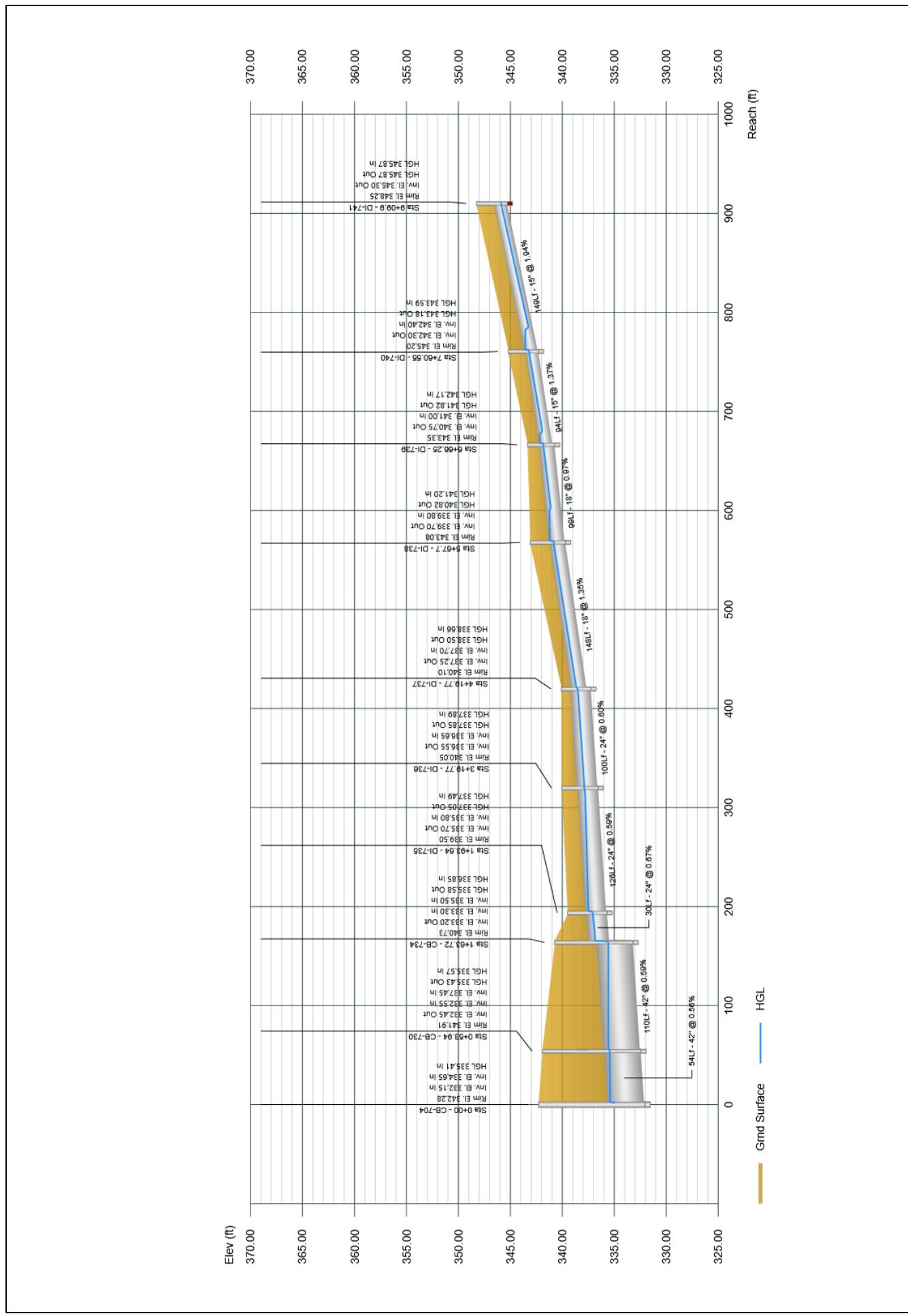
Project File: Storm System 700.sws

Profile View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 700

02-21-2022

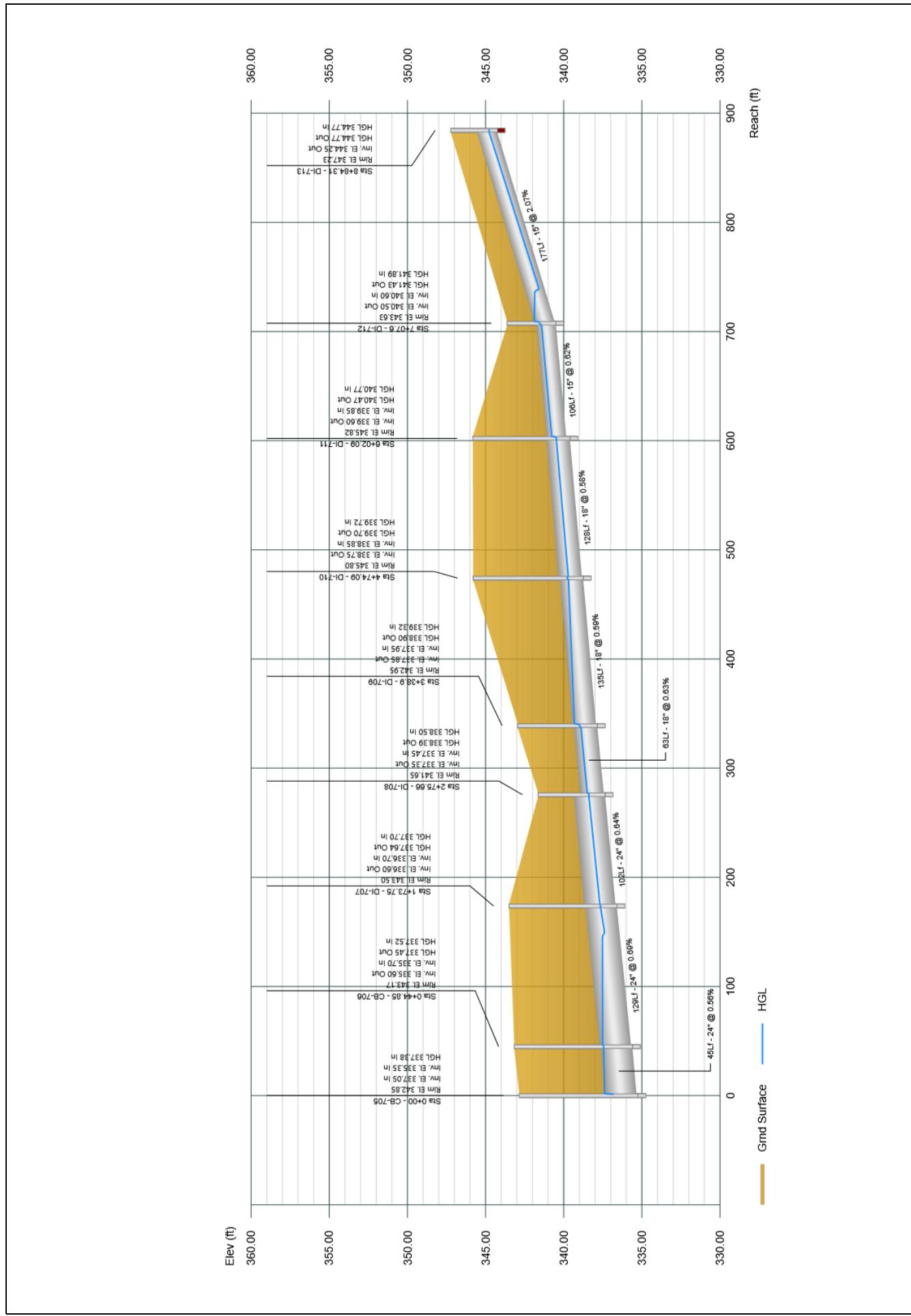


Profile View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 700

02-21-2022

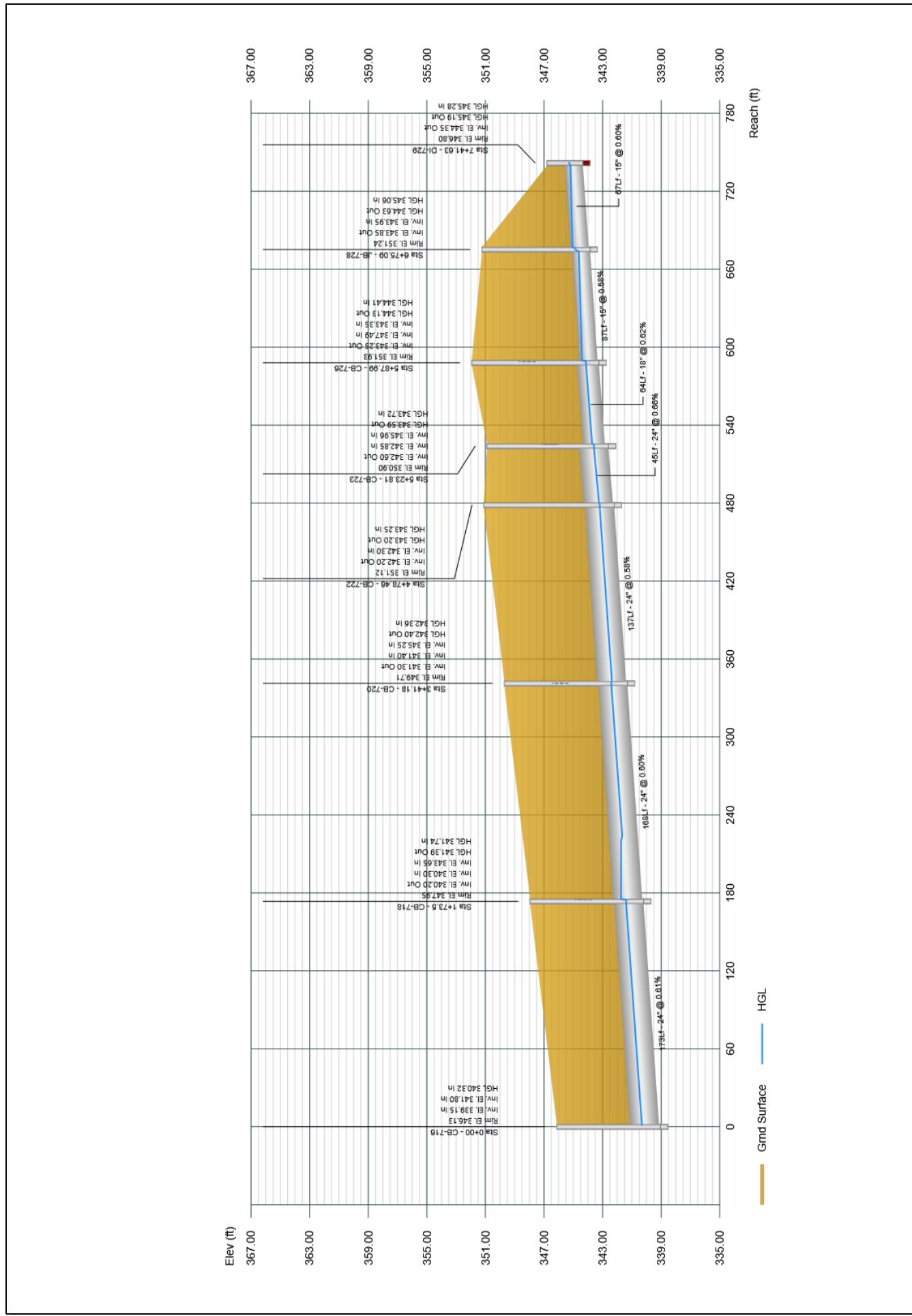


Profile View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 700

02-21-2022

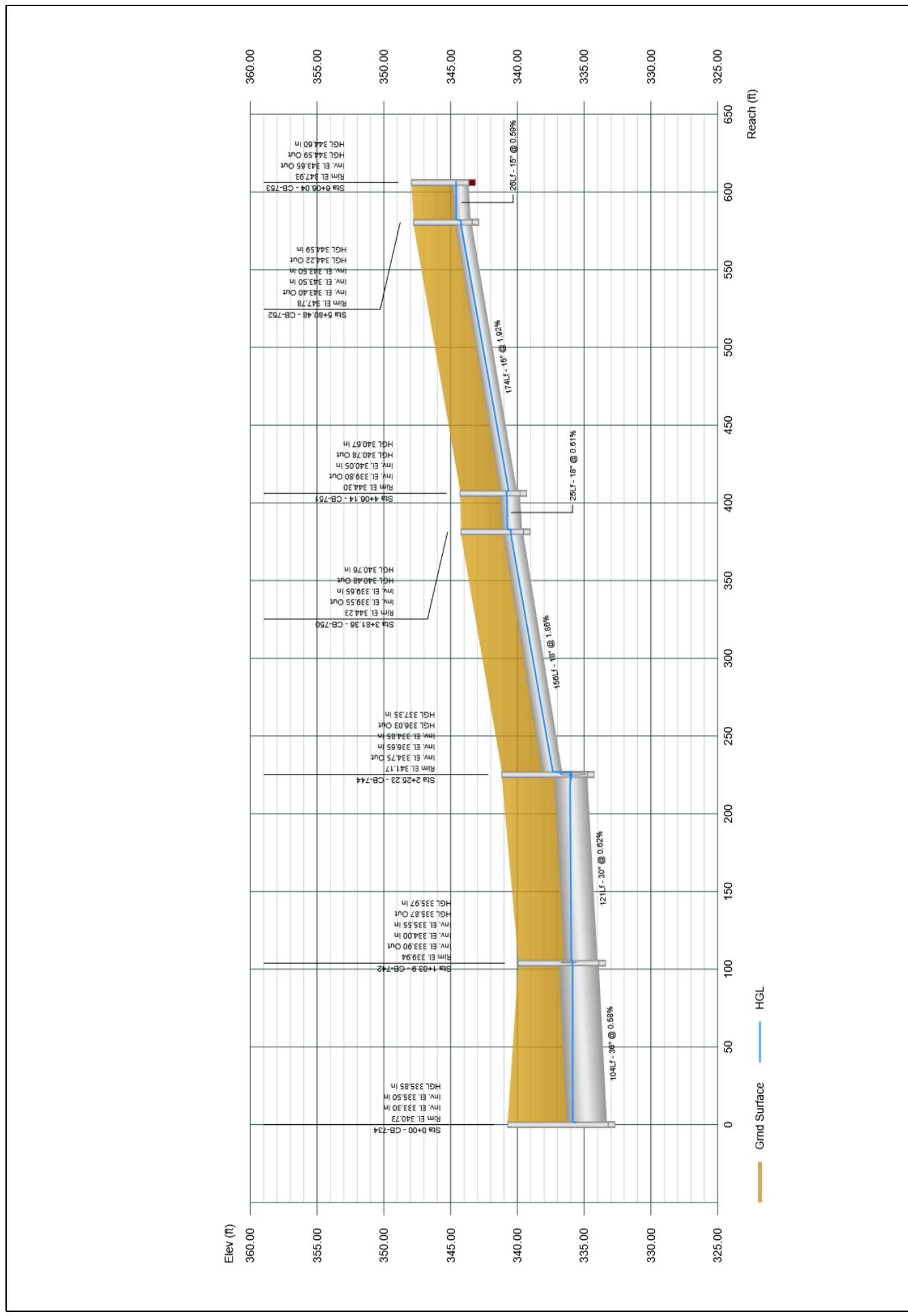


Profile View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 700

02-21-2022



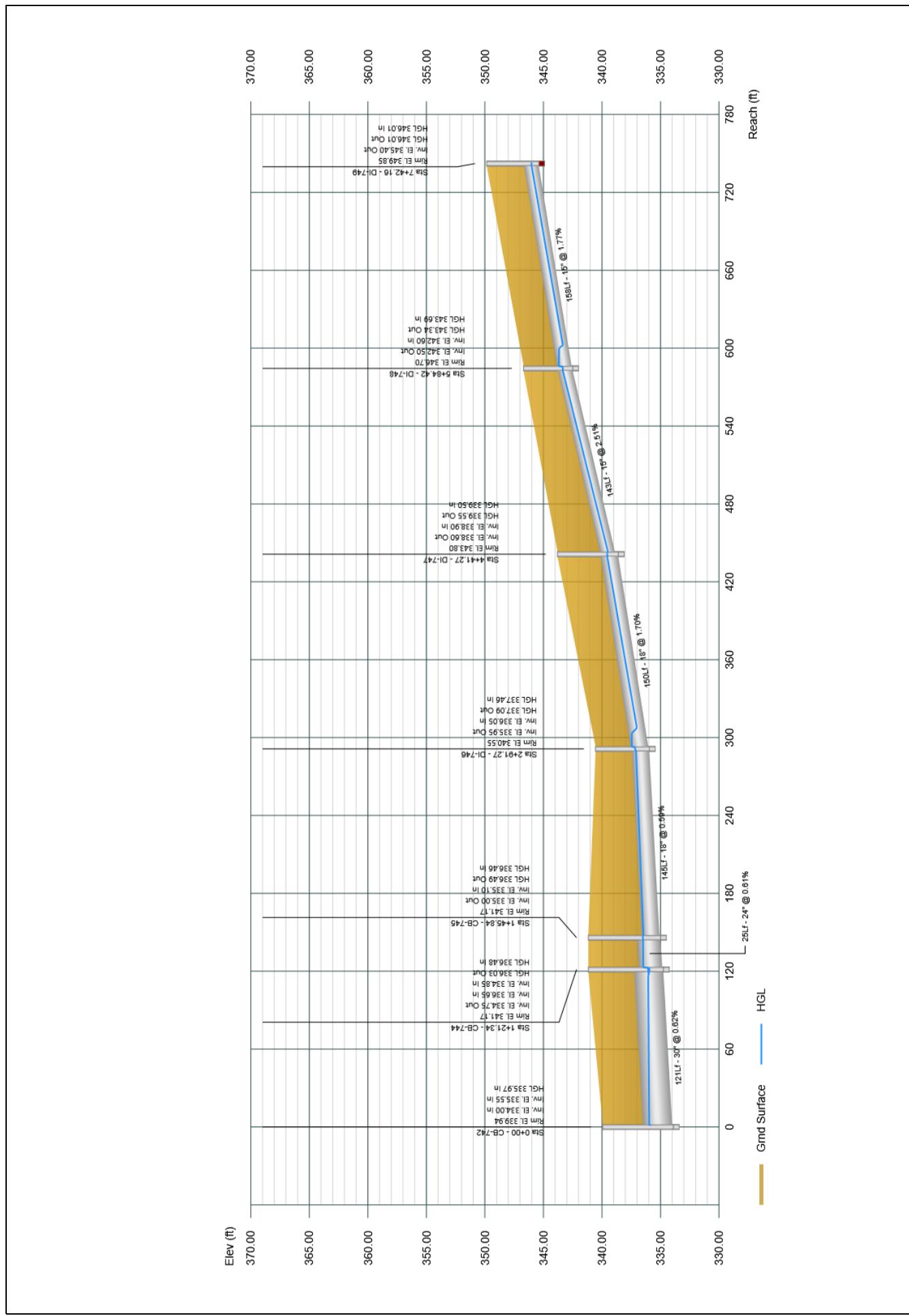
Project File: Storm System 700.sws

Profile View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 700

02-21-2022



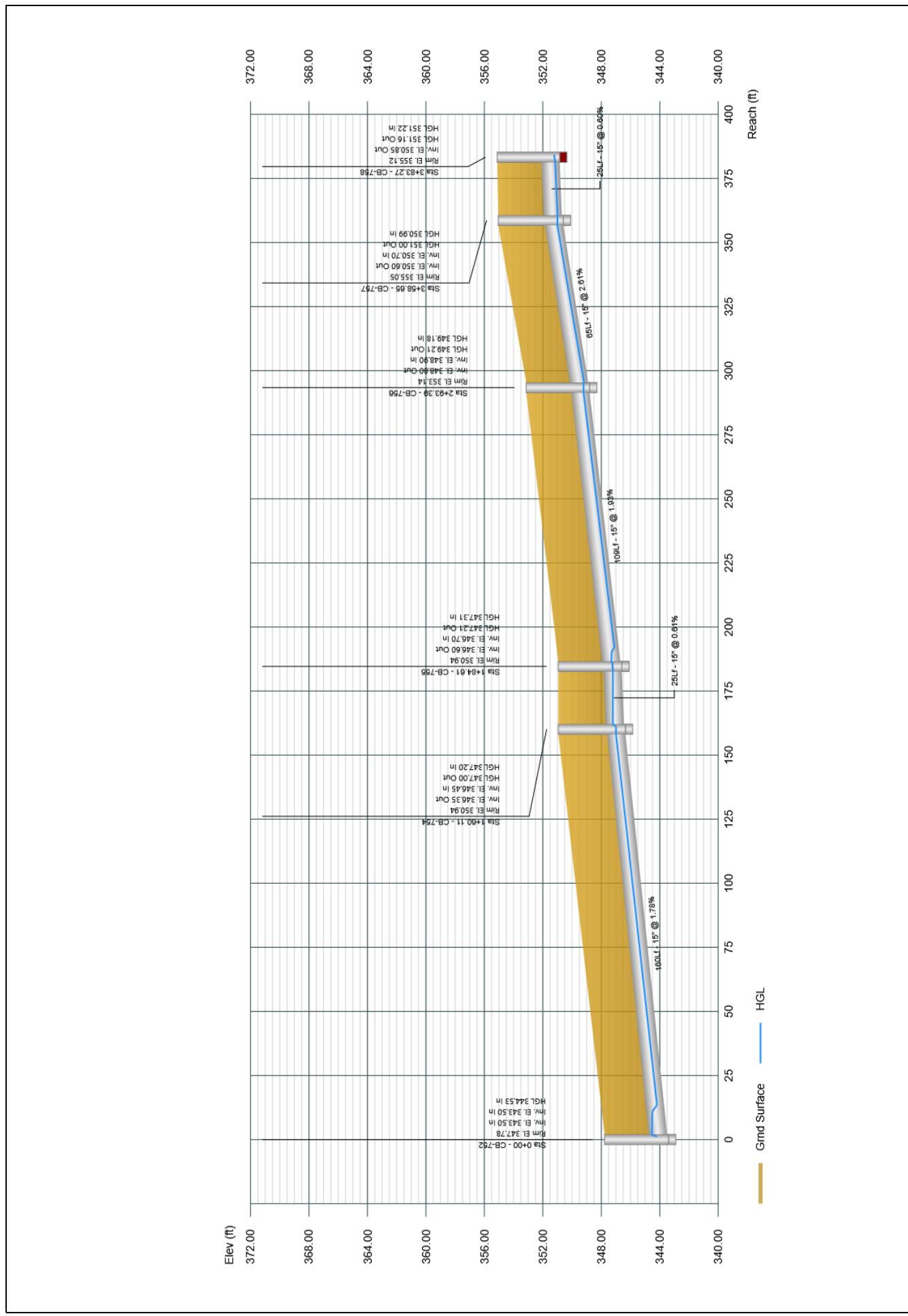
Project File: Storm System 700.sws

Profile View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 700

02-21-2022



Project File: Storm System 700.sws

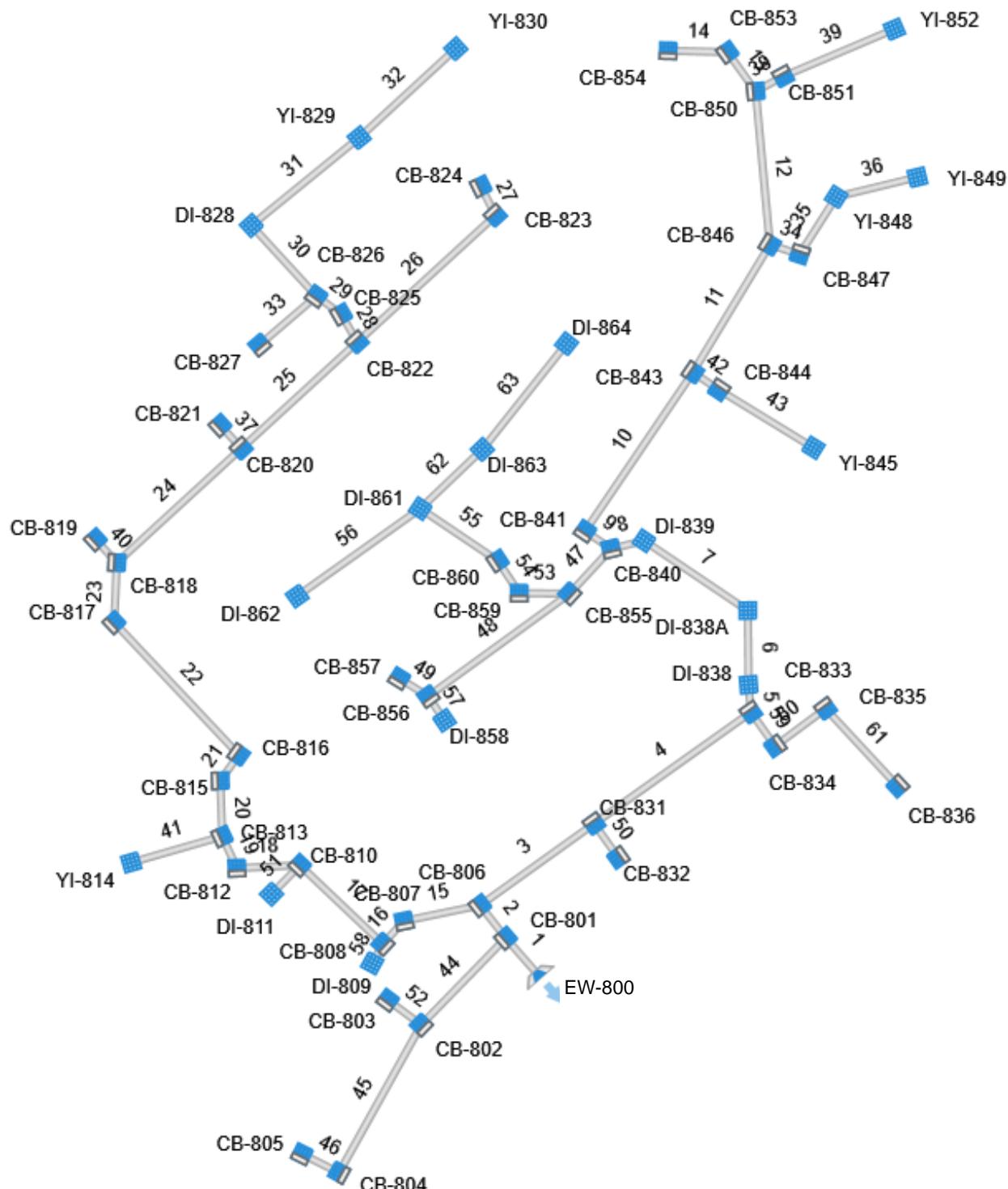
SYSTEM 800 – REPORTS AND PROFILES

Plan View

Project Name: Storm System 800

Stormwater Studio 2022 v 3.0.0.29

02-21-2022



Storm Sewer Tabulation

Stormwater Studio 2022 v 3.0.0.29
Project Name: Storm System 800
02-21-2022

Project Name: Storm System 800

Line ID	Length (ft)	Drng Area		C x A		Tc		Intensity (in/hr)	Capacity (cfs)	Velocity (ft/s)	Line		Invert Elev		HGL Elev		Surface Elev		Line No	
		Incr (ac)	Total (ac)	Incr (C)	Total (C)	Inlet (min)	Syst (min)				Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)		
800-801	34.27	0.150	11.040	0.85	0.13	7.60	5.0	8.31	6.24	47.42	246.03	2.66	60	0.89	340.30	340.00	344.42	344.42	348.00	1
801-806	32.50	0.520	9.700	0.65	0.34	6.67	5.0	8.25	6.26	41.72	201.76	2.49	60	0.60	340.60	340.40	344.49	344.48	350.83	2
806-831	109.69	0.270	4.950	0.70	0.19	3.36	5.0	7.97	6.33	21.25	151.38	1.60	54	0.59	341.35	340.70	344.57	344.57	350.83	3
831-833	150.51	0.090	4.580	0.85	0.08	3.09	5.0	7.58	6.43	19.82	75.60	2.90	42	0.56	342.55	341.70	344.57	344.56	351.34	4
833-838	21.63	0.050	4.260	0.65	0.03	2.81	5.0	7.53	6.44	18.11	55.50	3.90	36	0.69	342.80	342.65	344.60	344.61	352.69	5
838-838A	58.05	0.050	4.210	0.65	0.03	2.78	5.0	7.38	6.48	18.01	51.89	4.95	36	0.61	343.25	342.90	344.61	344.68	349.40	6
838A-839	97.80	0.050	4.160	0.65	0.03	2.75	5.0	7.13	6.55	17.99	30.78	5.87	30	0.56	343.90	343.35	345.32	344.94	351.75	7
839-840	26.56	0.220	4.110	0.75	0.17	2.72	5.0	7.06	6.56	17.83	30.57	6.23	30	0.56	344.15	344.00	345.57	345.41	350.96	8
840-841	24.53	0.230	4.170	0.75	0.17	0.99	5.0	6.98	6.59	6.54	8.21	5.16	18	0.61	346.35	346.20	347.36	347.21	349.40	9
841-843	150.16	0.240	1.240	0.45	0.11	0.82	5.0	6.67	6.67	5.48	15.68	6.30	18	2.23	349.80	346.45	350.69	347.09	351.75	10
843-846	116.61	0.140	0.760	0.65	0.09	0.53	5.0	6.23	6.80	3.62	5.00	4.44	15	0.60	351.96	351.26	352.75	352.05	360.89	11
846-850	120.60	0.040	0.330	0.70	0.03	0.23	5.0	5.68	6.97	1.58	5.09	3.53	15	0.62	356.25	355.50	356.75	355.98	365.80	12
850-853	37.74	0.040	0.070	0.65	0.03	0.05	5.0	5.42	7.05	0.34	5.04	2.25	15	0.61	361.78	361.55	362.01	361.77	366.53	13
853-854	46.50	0.030	0.030	0.75	0.02	0.02	5.0	5.00	7.19	0.16	5.01	1.76	15	0.60	362.56	362.28	362.72	362.44	366.53	14
806-807	60.77	0.070	4.230	0.85	0.06	2.97	5.0	7.91	6.34	18.84	32.00	6.45	30	0.61	344.43	344.06	345.88	345.48	351.32	15
807-808	24.50	0.050	4.160	0.85	0.04	2.91	5.0	7.85	6.36	18.51	31.00	6.32	30	0.57	344.67	344.53	346.11	345.97	351.32	16
808-810	89.38	0.040	4.080	0.90	0.04	2.85	5.0	7.62	6.42	18.28	31.88	6.40	30	0.60	345.31	344.77	346.74	346.16	353.94	17
810-812	49.34	0.060	3.790	0.85	0.05	2.70	5.0	7.49	6.45	17.41	31.77	6.23	30	0.60	348.74	348.44	350.14	349.81	353.94	18
812-813	27.41	0.240	3.730	0.70	0.17	2.65	5.0	7.42	6.47	17.13	32.30	6.17	30	0.62	349.40	349.23	350.79	350.60	355.73	19
813-815	43.53	0.220	2.770	0.75	0.17	2.01	5.0	7.30	6.50	13.09	17.48	6.10	24	0.60	350.16	349.90	351.45	351.19	355.39	20
815-816	24.99	0.110	2.550	0.78	0.09	1.85	5.0	7.23	6.52	12.05	17.52	4.60	24	0.60	350.40	350.25	351.90	351.87	355.51	21
816-817	142.17	0.050	2.440	0.75	0.04	1.76	5.0	7.02	6.58	11.59	41.34	8.07	24	3.34	355.25	350.50	356.46	351.28	360.34	22

Notes: IDF File = The Point.IDF, Return Period = 10-yr.

Project File: Storm System 800.sws

Storm Sewer Tabulation

Stormwater Studio 2022 v 3.0.0.29
Project Name: Storm System 800
02-21-2022

Project File: Storm System 800.sws

Line ID	Length (ft)	Drng Area		C x A		Tc		Intensity (in/hr)	Capacity (cfs)	Velocity (ft/s)	Line		Invert Elev		HGL Elev		Surface Elev		Line No	
		Incr (ac)	Total (ac)	Incr (C)	Total (C)	Inlet (min)	Syst (min)				Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)		
817-818	46.86	0.200	2.390	0.75	0.15	1.73	5.0	6.93	6.60	11.39	29.55	6.61	24	1.71	356.15	355.35	356.33	361.82	360.34	23
818-820	132.27	0.180	1.980	0.75	0.14	1.42	5.0	6.54	6.71	9.51	17.59	5.53	24	0.60	357.05	356.25	358.14	357.31	363.30	24
820-822	123.03	0.230	1.680	0.75	0.17	1.19	5.0	6.16	6.82	8.13	17.66	5.25	24	0.61	357.90	357.15	358.91	358.12	364.69	363.30
822-823	146.58	0.220	0.430	0.75	0.17	0.32	5.0	5.12	7.15	2.31	6.31	4.25	15	0.96	361.85	360.45	362.46	360.98	366.33	26
823-824	25.53	0.210	0.210	0.75	0.16	0.16	5.0	5.00	7.19	1.13	5.72	1.99	15	0.78	362.15	361.95	362.66	362.67	366.42	366.33
822-825	25.11	0.220	1.020	0.75	0.17	0.70	5.0	6.07	6.85	4.78	8.12	3.78	18	0.60	358.25	358.10	359.20	359.18	364.75	366.33
825-826	24.09	0.090	0.800	0.90	0.08	0.53	5.0	5.98	6.87	3.66	8.29	2.90	18	0.62	358.50	358.35	359.44	359.44	364.99	364.75
826-828	75.13	0.210	0.630	0.65	0.14	0.38	5.0	5.68	6.97	2.64	5.00	3.37	15	0.60	359.05	358.60	359.70	359.54	361.92	364.99
828-829	108.67	0.240	0.420	0.60	0.14	0.24	5.0	5.38	7.06	1.72	9.84	2.78	15	1.98	361.30	359.15	361.83	359.96	364.15	31
829-830	102.73	0.180	0.180	0.55	0.10	0.10	5.0	5.00	7.19	0.71	9.51	1.94	15	1.86	363.30	361.40	363.64	362.00	366.15	32
826-827	58.53	0.080	0.080	0.90	0.07	0.07	5.0	5.00	7.19	0.52	4.99	2.54	15	0.60	360.55	360.20	360.84	360.47	364.82	364.99
846-847	24.50	0.190	0.290	0.75	0.14	0.21	5.0	5.54	7.01	1.50	7.15	3.71	15	1.22	356.60	356.30	357.09	356.73	360.89	34
847-848	53.29	0.020	0.100	0.60	0.01	0.07	5.0	5.40	7.06	0.51	9.53	4.23	12	6.10	360.15	356.90	360.45	357.07	362.65	35
848-849	65.31	0.080	0.080	0.75	0.06	0.06	5.0	5.00	7.19	0.43	3.03	2.55	12	0.62	360.65	360.25	360.93	360.51	363.23	362.65
820-821	24.50	0.120	0.120	0.75	0.09	0.09	5.0	5.00	7.19	0.65	5.05	2.67	15	0.61	359.05	358.90	359.37	359.21	363.30	37
850-851	24.49	0.060	0.220	0.65	0.04	0.15	5.0	5.46	7.04	1.06	5.05	2.56	15	0.61	356.50	356.35	356.92	356.88	365.80	38
851-852	94.42	0.160	0.160	0.70	0.11	0.11	5.0	5.00	7.19	0.80	6.01	3.03	15	0.74	358.50	357.80	358.86	358.12	361.39	365.80
818-819	24.50	0.210	0.210	0.75	0.16	0.16	5.0	5.00	7.19	1.13	5.00	3.13	15	0.60	357.55	357.40	357.98	357.81	361.82	361.82
813-814	74.08	0.720	0.65	0.47	0.47	0.47	5.0	5.00	7.19	3.36	7.94	5.12	15	1.29	353.05	352.10	353.78	352.70	355.00	355.73
843-844	24.50	0.150	0.240	0.75	0.11	0.18	5.0	5.49	7.03	1.26	6.52	1.18	15	1.02	350.15	349.90	351.07	355.51	355.51	42
844-845	86.65	0.090	0.090	0.75	0.07	0.07	5.0	5.00	7.19	0.49	6.04	2.58	15	0.75	350.90	350.25	351.19	350.50	355.85	43
801-802	94.86	0.090	1.190	0.85	0.08	0.08	5.0	5.65	6.98	5.60	8.14	4.97	18	0.60	346.57	346.00	347.48	346.91	351.26	44

Notes: IDF File = The Point.IDF, Return Period = 10-yr.

Project File: Storm System 800.sws

Storm Sewer Tabulation

Stormwater Studio 2022 v 3.0.0.29
Project Name: Storm System 800
02-21-2022

Project Name: Storm System 800

Line ID	Length (ft)	Drng Area		C x A		Tc		Intensity	Total Q	Capacity (cfs)	Velocity (ft/s)	Size (in)	Slope (%)	Line		Invert Elev		HGL Elev		Surface Elev		Line No
		Incr (ac)	Total (ac)	Incr (C)	Total (C)	Inlet (min)	Syst (min)							Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
802-804	132.33	0.240	0.670	0.70	0.17	0.45	5.0	5.14	7.14	3.19	4.99	4.40	15	0.60	347.80	347.01	348.52	347.72	353.08	351.26	45	
804-805	32.50	0.430	0.430	0.65	0.28	0.28	5.0	5.00	7.19	2.01	4.94	3.73	15	0.58	348.83	348.64	349.40	349.20	353.08	353.08	46	
840-855	47.74	0.360	2.420	0.70	0.25	1.56	5.0	6.05	6.85	10.67	34.94	3.06	30	0.73	344.60	344.25	346.12	346.13	350.66	350.96	47	
855-856	136.81	0.080	0.490	0.85	0.07	0.33	5.0	5.15	7.14	2.39	6.05	3.15	15	0.88	346.50	345.30	347.12	346.26	352.36	350.66	48	
856-857	26.57	0.270	0.270	0.78	0.21	0.21	5.0	5.00	7.19	1.51	5.60	3.51	15	0.75	348.25	348.05	348.74	348.51	352.54	352.36	49	
831-832	32.50	0.100	0.100	0.85	0.09	0.09	5.0	5.00	7.19	0.61	5.07	2.62	15	0.62	348.10	347.90	348.42	348.20	351.34	351.34	50	
810-811	31.63	0.250	0.250	0.45	0.11	0.11	5.0	5.00	7.19	0.81	5.13	2.87	15	0.63	347.75	347.55	348.11	347.89	350.80	353.94	51	
802-803	32.49	0.430	0.430	0.65	0.28	0.28	5.0	5.00	7.19	2.01	5.00	1.99	15	0.60	347.01	346.82	347.89	347.88	351.26	351.26	52	
855-859	39.41	0.210	1.570	0.77	0.16	0.97	5.0	5.93	6.89	6.69	18.02	3.11	24	0.63	345.05	344.80	346.23	346.24	350.76	350.66	53	
859-860	30.39	0.190	1.360	0.85	0.16	0.81	5.0	5.83	6.92	5.60	18.35	3.27	24	0.66	345.35	345.15	346.32	346.35	350.00	350.76	54	
860-861	73.05	0.420	1.170	0.50	0.21	0.65	5.0	5.57	7.00	4.53	8.24	4.68	18	0.62	345.90	345.45	346.71	346.25	349.75	350.00	55	
861-862	118.17	0.230	0.230	0.55	0.13	0.13	5.0	5.00	7.19	0.91	7.97	3.51	15	1.52	348.55	346.75	348.93	347.04	351.84	349.75	56	
856-858	22.76	0.140	0.40	0.06	0.06	0.06	5.0	5.00	7.19	0.40	5.18	0.60	15	0.64	346.75	346.60	347.36	347.36	349.08	352.36	57	
808-809	17.20	0.030	0.030	0.65	0.02	0.02	5.0	5.00	7.19	0.14	5.00	1.73	15	0.60	346.70	346.60	346.85	346.74	350.95	351.32	58	
833-834	32.50	0.030	0.230	0.85	0.03	0.20	5.0	5.70	6.96	1.36	5.07	3.33	15	0.62	346.00	345.80	346.47	346.25	352.86	352.86	59	
834-835	49.26	0.060	0.200	0.85	0.05	0.17	5.0	5.45	7.04	1.20	5.04	3.22	15	0.61	346.40	346.10	346.84	346.52	353.35	352.86	60	
835-836	82.70	0.140	0.140	0.85	0.12	0.12	5.0	5.00	7.19	0.86	5.02	2.93	15	0.60	347.00	346.50	347.37	346.85	351.23	353.35	61	
861-863	66.99	0.270	0.520	0.55	0.15	0.31	5.0	5.29	7.09	2.21	5.00	2.70	15	0.60	346.40	346.00	347.07	347.00	349.80	349.75	62	
863-864	105.82	0.250	0.250	0.65	0.16	0.16	5.0	5.00	7.19	1.17	11.74	2.31	15	3.30	350.00	346.50	350.43	347.25	353.20	349.80	63	

Notes: IDF File = The Point.IDF, Return Period = 10-yr.

Project File: Storm System 800.sws

Energy Grade Line Calculations

Project Name: Storm System 800

Stormwater Studio 2022 v 3.0.0.29

02-21-2022

Line No	Line Size (in)	Q (cfs)	Downstream						Upstream						Pipe			Junction				
			Invert Elev (ft)	Depth (ft)	Area (sqft)	HGL Elev (ft)	Vel Head (ft)	EGL Elev (ft)	Invert Elev (ft)	Depth (ft)	Area (sqft)	HGL Elev (ft)	Vel Head (ft/s)	EGL Elev (ft)	n Value	Energy Loss (ft)	HGLa Elev (ft)	EGLa Elev (ft)	Energy Loss (ft)			
1	60	47.42	340.00	4.42	18.37	344.42	2.58	0.10	344.52	34.27	340.30	4.11	17.28	344.42	2.74	0.12	344.54	0.012	344.42	344.54	0.00	
2	60	41.72	340.40	4.08	17.15	344.48	2.43	0.09	344.57	32.50	340.60	3.89	16.37	344.49	2.55	0.10	344.59	0.013	344.49	344.59	0.00	
3	54	21.25	340.70	3.87	14.55	344.57	1.46	0.03	344.60	109.69	341.35	3.22	12.17	344.57	1.75	0.05	344.62	0.013	344.57	344.62	0.00	
4	42	19.82	341.70	2.86	8.43	344.56	2.35	0.09	344.65	150.51	342.55	2.02	5.74	344.57	3.46	0.19	344.75	0.013	344.57	344.76	0.01	
5	36	18.11	342.65	1.96	4.90	344.61	3.69	0.21	344.83	21.63	342.80	1.80	4.42	344.60	4.10	0.26	344.86	0.013	344.61	344.87	0.01	
6	36	18.01	342.90	1.78	4.37	344.68	4.12	0.26	344.95	58.05	343.25	1.36	3.12	344.61	5.78	0.52	345.13	0.013	0.186	344.63	345.15	0.02
7	30	17.99	343.35	1.59	3.28	344.94	5.48	0.47	345.40	97.80	343.90	1.42 ²	2.87	345.32	6.26	0.61	345.93	0.013	0.526	345.32	345.93	0.00
8	30	17.83	344.00	1.41 ¹	2.86	345.41	6.24	0.61	346.04	26.56	344.15	1.42	2.87	345.57	6.21	0.60	346.17	0.013	0.131	345.61	346.21	0.04
9	18	6.54	346.20	1.01 ³	1.27	347.21	5.16	0.41	347.63	24.53	346.35	1.01	1.27	347.36	5.16	0.41	347.78	0.013	0.150	347.43	347.84	0.07
10	18	5.48	346.45	0.64‡	0.72	347.09	7.60	0.90	347.90	150.16	349.80	0.89 ²	1.10	350.69	4.99	0.39	351.08	0.013	3.180	350.69	351.08	0.00
11	15	3.62	351.26	0.79 ³	0.82	352.05	4.44	0.31	352.36	116.61	351.96	0.79	0.82	352.75	4.44	0.31	353.06	0.013	0.700	352.86	353.17	0.12
12	15	1.58	355.50	0.48‡	0.44	355.98	3.63	0.20	356.19	120.60	356.25	0.50 ²	0.46	356.75	3.42	0.18	356.94	0.013	0.750	356.75	356.94	0.00
13	15	0.34	361.55	0.22‡	0.15	361.77	2.36	0.09	361.86	37.74	361.78	0.23 ²	0.16	362.01	2.15	0.07	362.09	0.013	0.230	362.01	362.09	0.00
14	15	0.16	362.28	0.16‡	0.09	362.44	1.78	0.05	362.49	46.50	362.56	0.16 ²	0.09	362.72	1.75	0.05	362.77	0.013	0.280	362.72	362.77	0.00
15	30	18.84	344.06	1.42‡	2.89	345.48	6.53	0.66	346.14	60.77	344.43	1.45 ²	2.95	345.88	6.38	0.63	346.51	0.013	0.370	345.88	346.51	0.00
16	30	18.51	344.53	1.44‡	2.92	345.97	6.34	0.63	346.62	24.50	344.67	1.44	2.94	346.11	6.30	0.62	346.73	0.013	0.109	346.15	346.76	0.03
17	30	18.28	344.77	1.39‡	2.81	346.16	6.50	0.66	346.87	89.38	345.31	1.43 ²	2.90	346.74	6.30	0.62	347.36	0.013	0.486	346.74	347.36	0.00
18	30	17.41	348.44	1.37‡	2.76	349.81	6.30	0.62	350.43	49.34	348.74	1.40	2.83	350.14	6.15	0.59	350.73	0.013	0.296	350.17	350.76	0.03
19	30	17.13	349.23	1.37‡	2.75	350.60	6.24	0.60	351.20	27.41	349.40	1.39	2.80	350.79	6.11	0.58	351.37	0.013	0.170	350.83	351.41	0.04
20	24	13.09	349.90	1.29 ³	2.14	351.19	6.10	0.58	351.77	43.53	350.16	1.29	2.14	351.45	6.10	0.58	352.03	0.013	0.260	351.50	352.08	0.05
21	24	12.05	350.25	1.62	2.72	351.87	4.42	0.30	352.17	24.99	350.40	1.50	2.52	351.90	4.77	0.35	352.25	0.013	0.080	351.92	352.27	0.02
22	24	11.59	350.50	0.78‡	1.13	351.28	10.29	1.64	352.36	142.17	355.25	1.21 ²	1.98	356.46	5.86	0.53	356.99	0.013	4.625	356.46	356.99	0.00

Notes: Return Period = 10-yr.¹ Critical depth.² Normal depth.³ Supercritical.

Project File: Storm System 800.sws

Energy Grade Line Calculations

Project Name: Storm System 800

Stormwater Studio 2022 v 3.0.0.29

02-21-2022

Line No	Line Size (in)	Q (cfs)	Downstream						Upstream						Pipe			Junction				
			Invert Elev (ft)	Depth (ft)	Area (sqft)	HGL Elev (ft)	Vel Head (ft)	EGL Elev (ft)	Invert Elev (ft)	Depth (ft)	Area (sqft)	HGL Elev (ft)	Vel Head (ft/s)	EGL Elev (ft)	n Value	Energy Loss (ft)	HGLa Elev (ft)	EGLa Elev (ft)	Energy Loss (ft)			
23	24	11.39	355.35	0.98‡	1.54	356.33	7.40	0.85	357.08	46.86	356.15	1.20 ²	1.96	357.35	0.53	357.87	0.013	0.791	357.35	357.87	0.00	
24	24	9.51	356.25	1.06‡	1.69	357.31	5.63	0.49	357.94	132.27	357.05	1.09 ²	1.76	358.14	5.42	0.46	358.60	0.013	0.658	358.14	358.60	0.00
25	24	8.13	357.15	0.97‡	1.51	358.12	5.39	0.45	358.66	123.03	357.90	1.01 ²	1.59	358.91	5.11	0.41	359.32	0.013	0.655	358.91	359.32	0.00
26	15	2.31	360.45	0.53‡	0.50	360.98	4.61	0.33	361.29	146.58	361.85	0.61 ²	0.59	362.46	3.89	0.24	362.69	0.013	1.400	362.46	362.69	0.00
27	15	1.13	361.95	0.72	0.73	362.67	1.55	0.04	362.71	25.53	362.15	0.51	0.47	362.66	2.42	0.09	362.75	0.013	0.043	362.70	362.79	0.04
28	18	4.78	358.10	1.08	1.36	359.18	3.51	0.19	359.37	25.11	358.25	0.95	1.18	359.20	4.06	0.26	359.45	0.013	0.083	359.26	359.51	0.06
29	18	3.66	358.35	1.09	1.37	359.44	2.67	0.11	359.55	24.09	358.50	0.94	1.17	359.44	3.13	0.15	359.59	0.013	0.048	359.46	359.62	0.02
30	15	2.64	358.60	0.94	0.99	359.54	2.67	0.11	359.65	75.13	359.05	0.65	0.65	359.70	4.07	0.26	359.96	0.013	0.312	359.75	360.00	0.04
31	15	1.72	359.15	0.81	0.84	359.96	2.04	0.06	360.02	108.67	361.30	0.52 ²	0.49	361.83	3.52	0.19	362.02	0.012	1.995	361.83	362.02	0.00
32	15	0.71	361.40	0.60	0.59	362.00	1.21	0.02	362.03	102.73	363.30	0.34 ²	0.27	363.64	2.66	0.11	363.75	0.012	1.722	363.64	363.75	0.00
33	15	0.52	360.20	0.27‡	0.19	360.47	2.67	0.11	360.58	58.53	360.55	0.29 ²	0.21	360.84	2.42	0.09	360.93	0.013	0.350	360.84	360.93	0.00
34	15	1.50	356.30	0.43‡	0.37	356.73	4.05	0.25	356.97	24.50	356.60	0.49 ²	0.45	357.09	3.36	0.18	357.27	0.013	0.300	357.09	357.27	0.00
35	12	0.51	356.90	0.17‡	0.09	357.07	5.92	0.55	357.30	53.29	360.15	0.30 ²	0.20	360.45	2.54	0.10	360.55	0.012	3.250	360.45	360.55	0.00
36	12	0.43	360.25	0.26‡	0.16	360.51	2.69	0.11	360.62	65.31	360.65	0.28 ²	0.18	360.93	2.41	0.09	361.02	0.012	0.402	360.93	361.02	0.00
37	15	0.65	358.90	0.31‡	0.23	359.21	2.78	0.12	359.33	24.50	359.05	0.32	0.25	359.37	2.56	0.10	359.48	0.013	0.150	359.43	359.53	0.06
38	15	1.06	356.35	0.53	0.49	356.88	2.15	0.07	356.95	24.49	356.50	0.42	0.36	356.92	2.98	0.14	357.05	0.013	0.102	356.97	357.11	0.05
39	15	0.80	357.80	0.32‡	0.24	358.12	3.29	0.17	358.28	94.42	358.50	0.36 ²	0.29	358.86	2.76	0.12	358.98	0.012	0.697	358.86	358.98	0.00
40	15	1.13	357.40	0.41‡	0.35	357.81	3.23	0.16	357.98	24.50	357.55	0.43	0.37	357.98	3.04	0.14	358.12	0.013	0.147	358.05	358.19	0.07
41	15	3.36	352.10	0.60‡	0.59	352.70	5.74	0.51	353.14	74.08	353.05	0.73 ²	0.75	353.78	4.49	0.31	354.10	0.012	0.954	353.78	354.10	0.00
42	15	1.26	349.90	1.17	1.19	351.07	1.06	0.02	351.09	24.50	350.15	0.92	0.97	351.07	1.31	0.03	351.10	0.013	0.009	351.08	351.11	0.01
43	15	0.49	350.25	0.24‡	0.17	350.50	2.88	0.13	351.11	86.65	350.90	0.29	0.21	351.19	2.29	0.08	351.27	0.012	0.159	351.24	351.32	0.05
44	18	5.60	346.00	0.91 ³	1.13	346.91	4.96	0.38	347.30	94.86	346.57	0.91	1.13	347.48	4.97	0.38	347.87	0.013	0.570	347.53	347.91	0.04

Notes: Return Period = 10-yr. ² Critical depth. ³ Normal depth. ‡ Supercritical.

Project File: Storm System 800.sws

Energy Grade Line Calculations

Project Name: Storm System 800

Stormwater Studio 2022 v 3.0.0.29

02-21-2022

Line No	Line Size (in)	Q (cfs)	Downstream						Upstream						Pipe			Junction				
			Invert Elev (ft)	Depth (ft)	Area (sqft)	HGL Elev (ft)	Vel Head (ft)	EGL Elev (ft)	Invert Elev (ft)	Depth (ft)	Area (sqft)	HGL Elev (ft)	Vel Head (ft/s)	EGL Elev (ft)	n Value	Energy Loss (ft)	HGLa Elev (ft)	EGLa Elev (ft)	Energy Loss (ft)			
45	15	3.19	347.01	0.71‡	0.73	347.72	4.40	0.30	348.04	132.33	347.80	0.72 ²	0.73	348.52	4.40	0.30	348.82	0.013	0.778	348.52	348.82	0.00
46	15	2.01	348.64	0.56‡	0.53	349.20	3.78	0.22	349.42	32.50	348.83	0.57	0.55	349.40	3.68	0.21	349.61	0.013	0.190	349.48	349.69	0.08
47	30	10.67	344.25	1.88	3.96	346.13	2.70	0.11	346.25	47.74	344.60	1.52	3.13	346.12	3.41	0.18	346.30	0.013	0.056	346.14	346.32	0.02
48	15	2.39	345.30	0.96	1.01	346.26	2.36	0.09	346.35	136.81	346.50	0.62 ²	0.61	347.12	3.94	0.24	347.36	0.013	1.013	347.12	347.36	0.00
49	15	1.51	348.05	0.46‡	0.41	348.51	3.65	0.21	348.72	26.57	348.25	0.49 ²	0.45	348.74	3.37	0.18	348.92	0.013	0.200	348.74	348.92	0.00
50	15	0.61	347.90	0.30‡	0.22	348.20	2.72	0.12	348.31	32.50	348.10	0.32	0.24	348.42	2.51	0.10	348.51	0.013	0.200	348.46	348.55	0.04
51	15	0.81	347.55	0.34‡	0.27	347.89	2.97	0.14	348.03	31.63	347.75	0.36 ²	0.29	348.11	2.77	0.12	348.23	0.013	0.200	348.11	348.23	0.00
52	15	2.01	346.82	1.06	1.11	347.88	1.81	0.05	347.93	32.49	347.01	0.88	0.92	347.89	2.17	0.07	347.96	0.013	0.037	347.92	347.99	0.03
53	24	6.69	344.80	1.44	2.42	346.24	2.76	0.12	346.36	39.41	345.05	1.18	1.94	346.23	3.45	0.19	346.42	0.013	0.061	346.25	346.44	0.02
54	24	5.60	345.15	1.20	1.96	346.35	2.85	0.13	346.47	30.39	345.35	0.97	1.52	346.32	3.69	0.21	346.53	0.013	0.061	346.34	346.56	0.02
55	18	4.53	345.45	0.80‡	0.96	346.25	4.72	0.35	346.61	73.05	345.90	0.81 ²	0.98	346.71	4.64	0.33	347.05	0.013	0.439	346.71	347.05	0.00
56	15	0.91	346.75	0.29‡	0.22	347.04	4.16	0.27	347.26	118.17	348.55	0.38 ²	0.32	348.93	2.87	0.13	349.06	0.013	1.799	348.93	349.06	0.00
57	15	0.40	346.60	0.75	0.77	347.36	0.52	0.00	347.36	22.76	346.75	0.61	0.59	347.36	0.68	0.01	347.37	0.013	0.004	347.36	347.37	0.00
58	15	0.14	346.60	0.14‡	0.08	346.74	1.80	0.05	346.79	17.20	346.70	0.15	0.08	346.85	1.65	0.04	346.89	0.013	0.104	346.88	346.92	0.03
59	15	1.36	345.80	0.45‡	0.40	346.25	3.43	0.18	346.43	32.50	346.00	0.47	0.42	346.47	3.23	0.16	346.63	0.013	0.200	346.50	346.66	0.03
60	15	1.20	346.10	0.42‡	0.36	346.52	3.32	0.17	346.69	49.26	346.40	0.44 ²	0.38	346.84	3.12	0.15	346.99	0.013	0.299	346.84	346.99	0.00
61	15	0.86	346.50	0.35 ³	0.28	346.85	3.04	0.14	347.00	82.70	347.00	0.37 ²	0.30	347.37	2.81	0.12	347.49	0.013	0.495	347.37	347.49	0.00
62	15	2.21	346.00	1.00	1.06	347.00	2.09	0.07	347.07	66.99	346.40	0.67	0.67	347.07	3.32	0.17	347.24	0.013	1.168	347.10	347.28	0.04
63	15	1.17	346.50	0.75	0.77	347.25	1.52	0.04	347.29	105.82	350.00	0.43 ²	0.38	350.43	3.10	0.15	350.58	0.013	3.290	350.43	350.58	0.00

Notes: Return Period = 10-yr. ² Critical depth. ³ Normal depth. ‡ Supercritical.

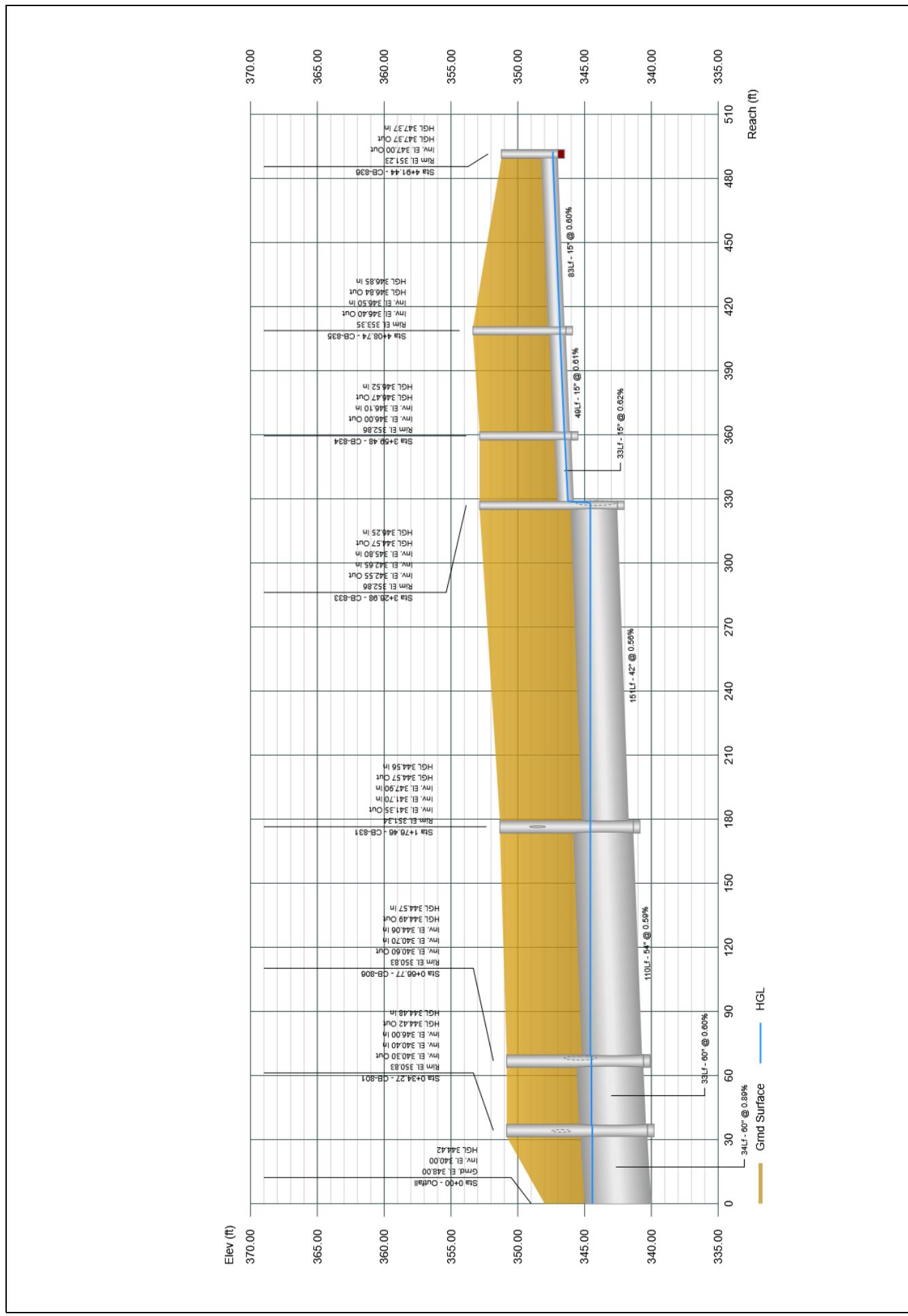
Project File: Storm System 800.sws

Profile View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 800

02-21-2022



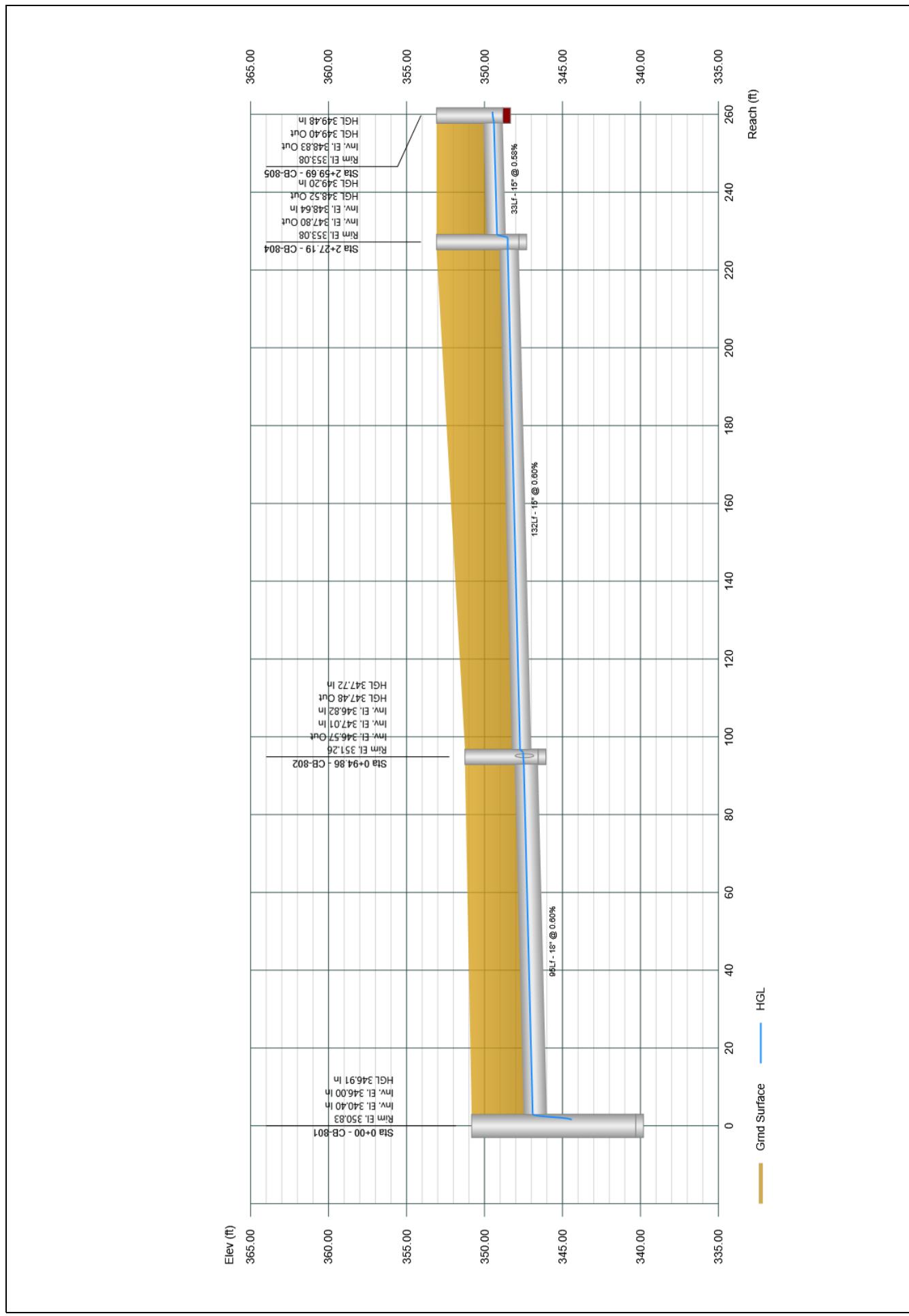
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Profile View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 800

02-21-2022



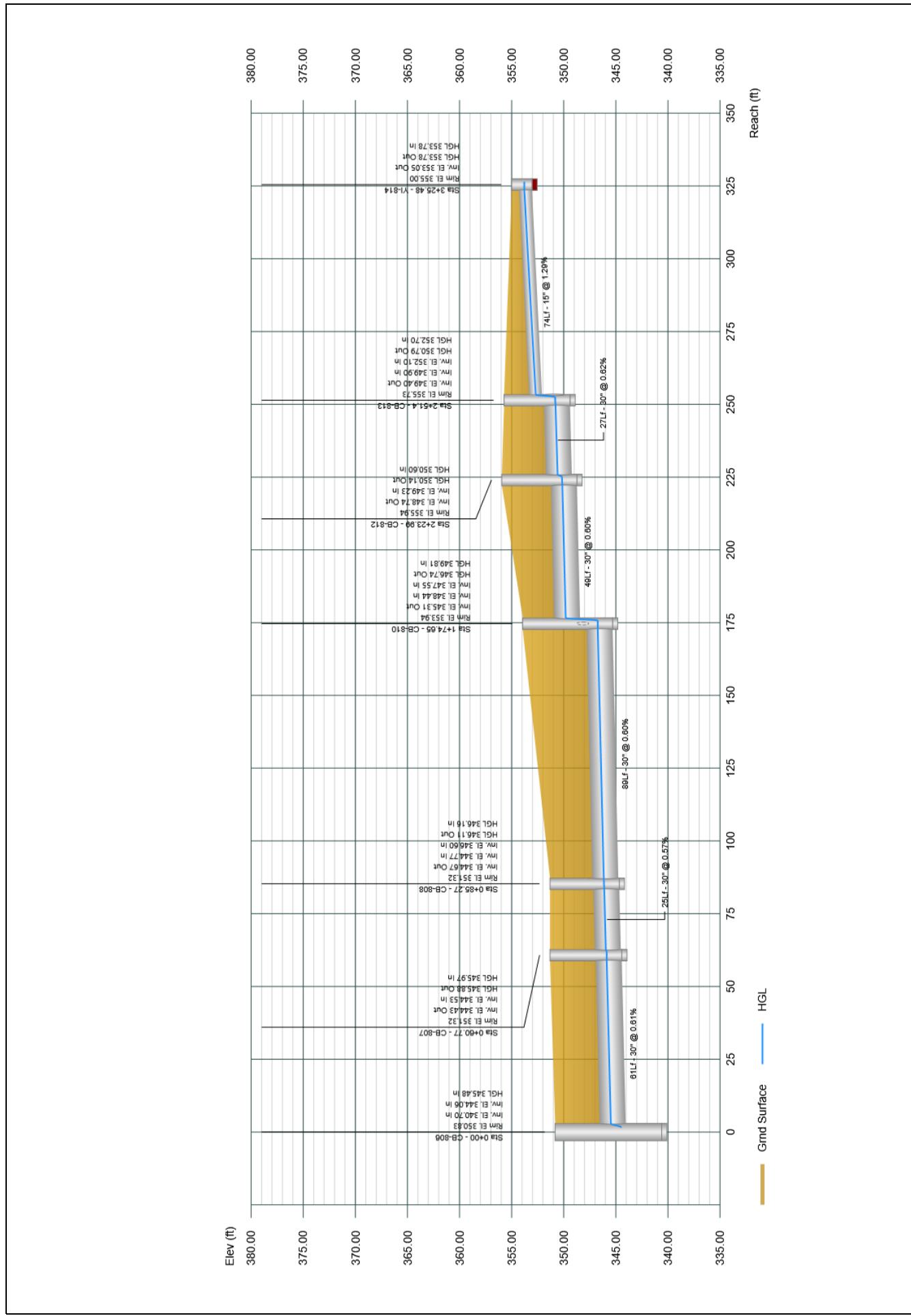
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Profile View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 800

02-21-2022



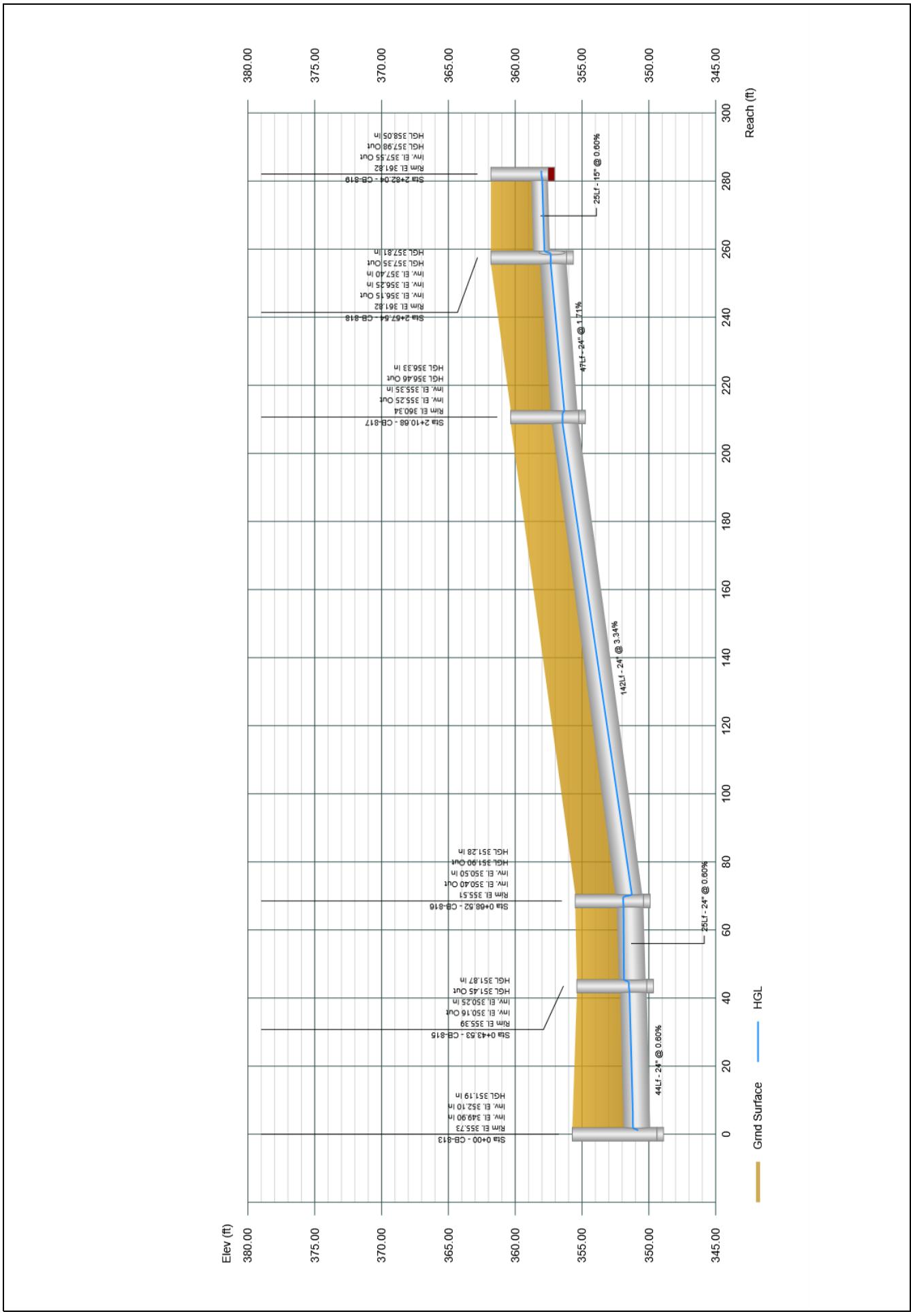
Project File: Storm System 800.sws

Profile View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 800

02-21-2022



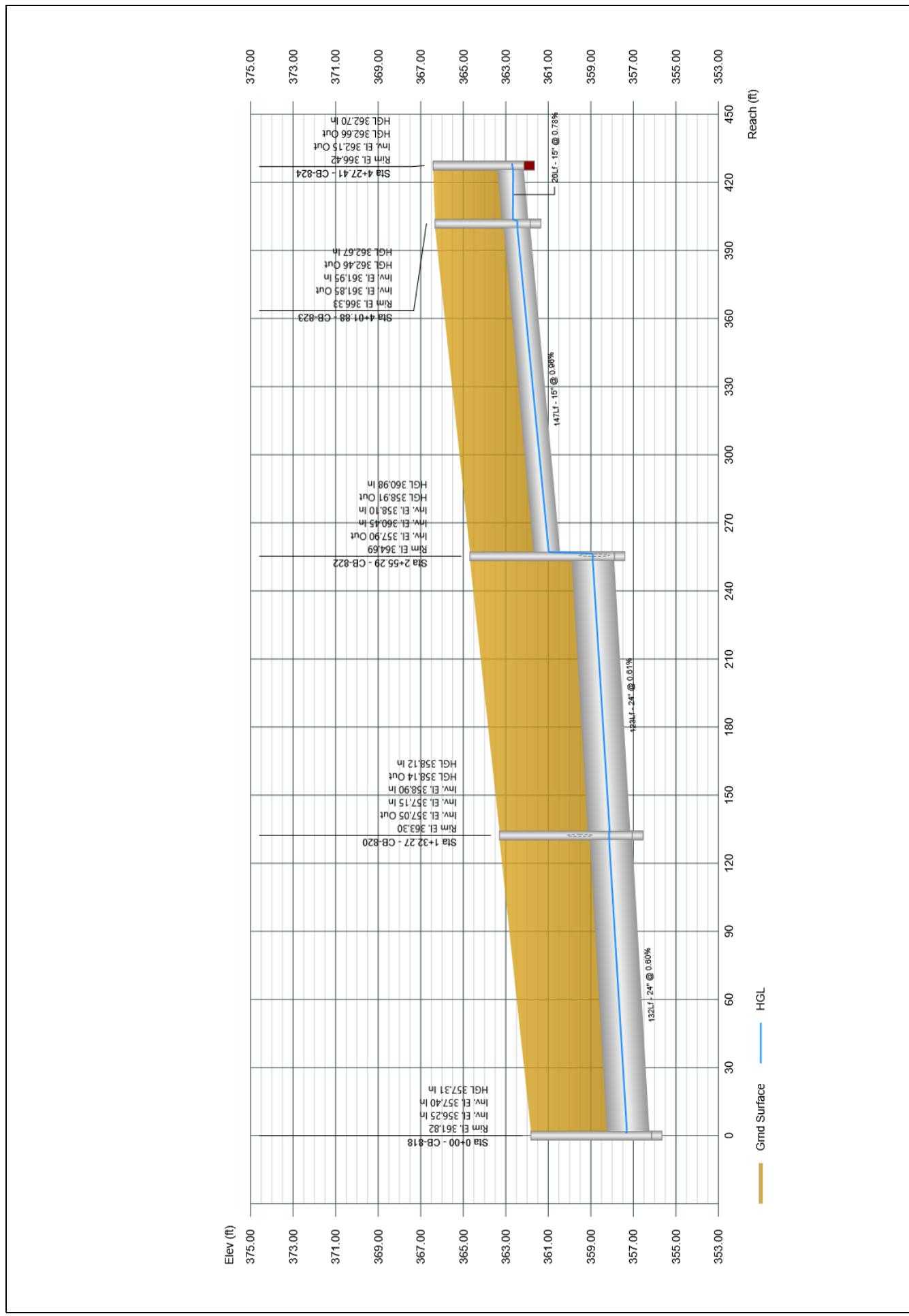
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Profile View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 800

02-21-2022



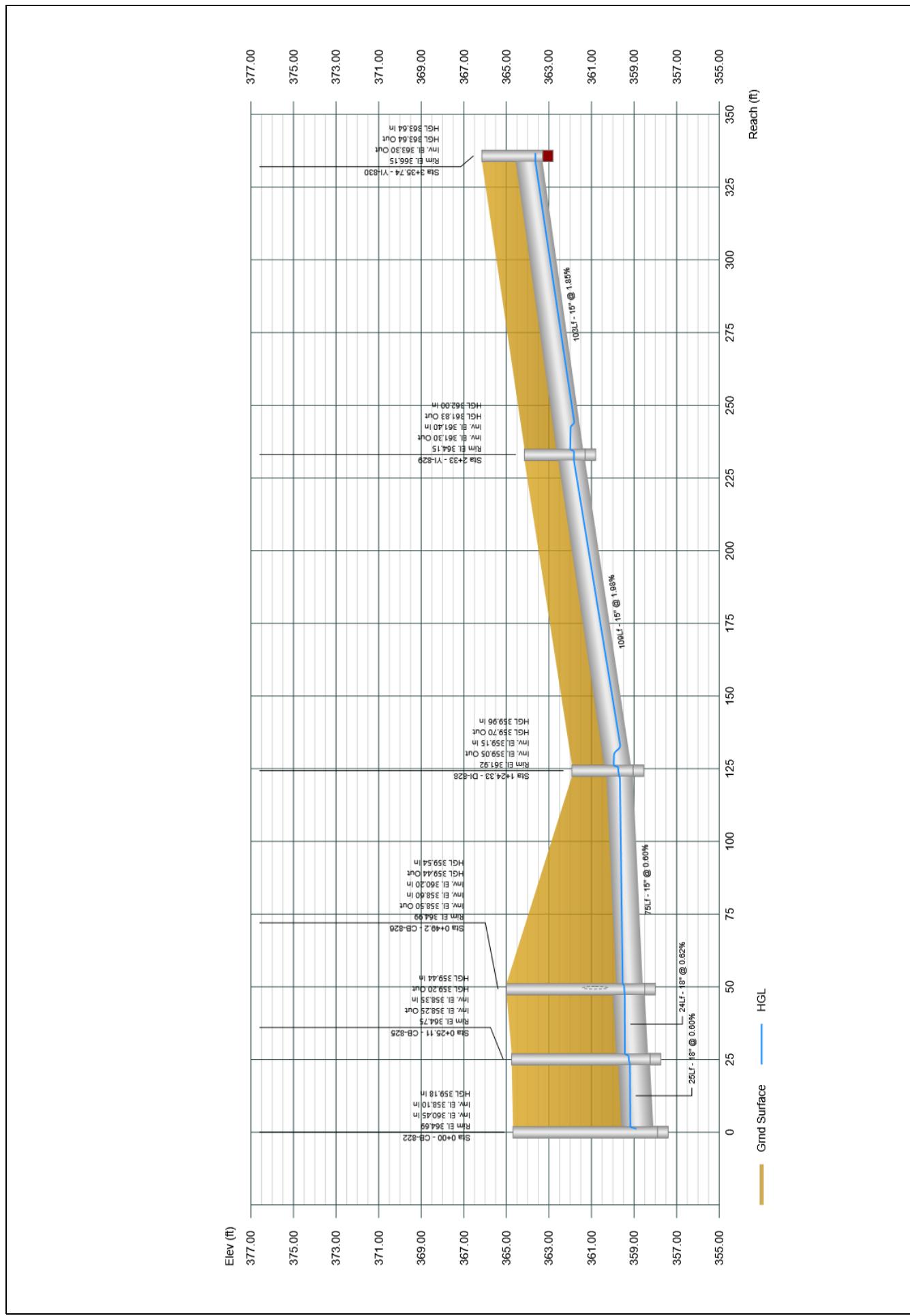
Project File: Storm System 800.sws

Profile View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 800

02-21-2022



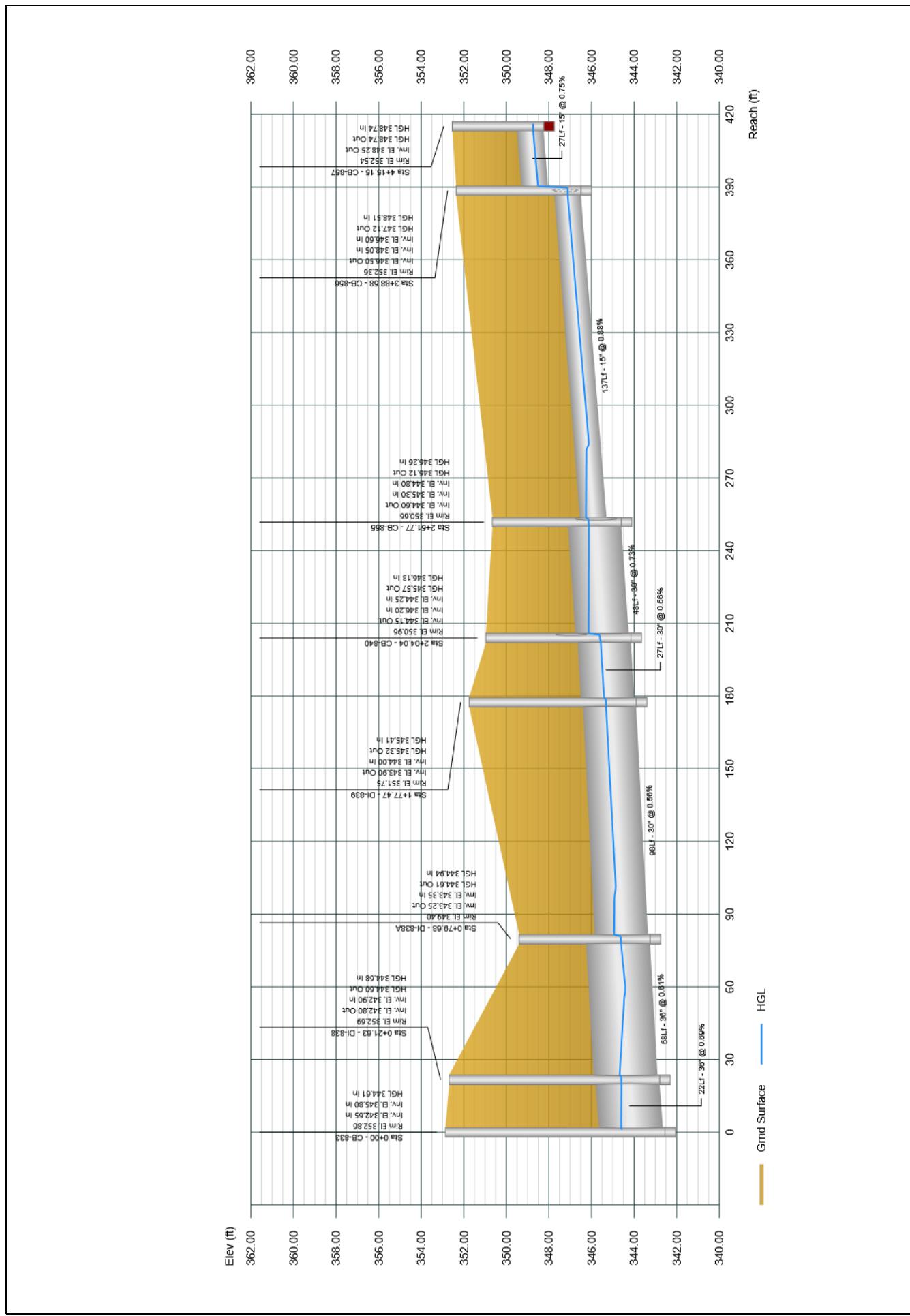
Project File: Storm System 800.sws

Profile View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 800

02-21-2022



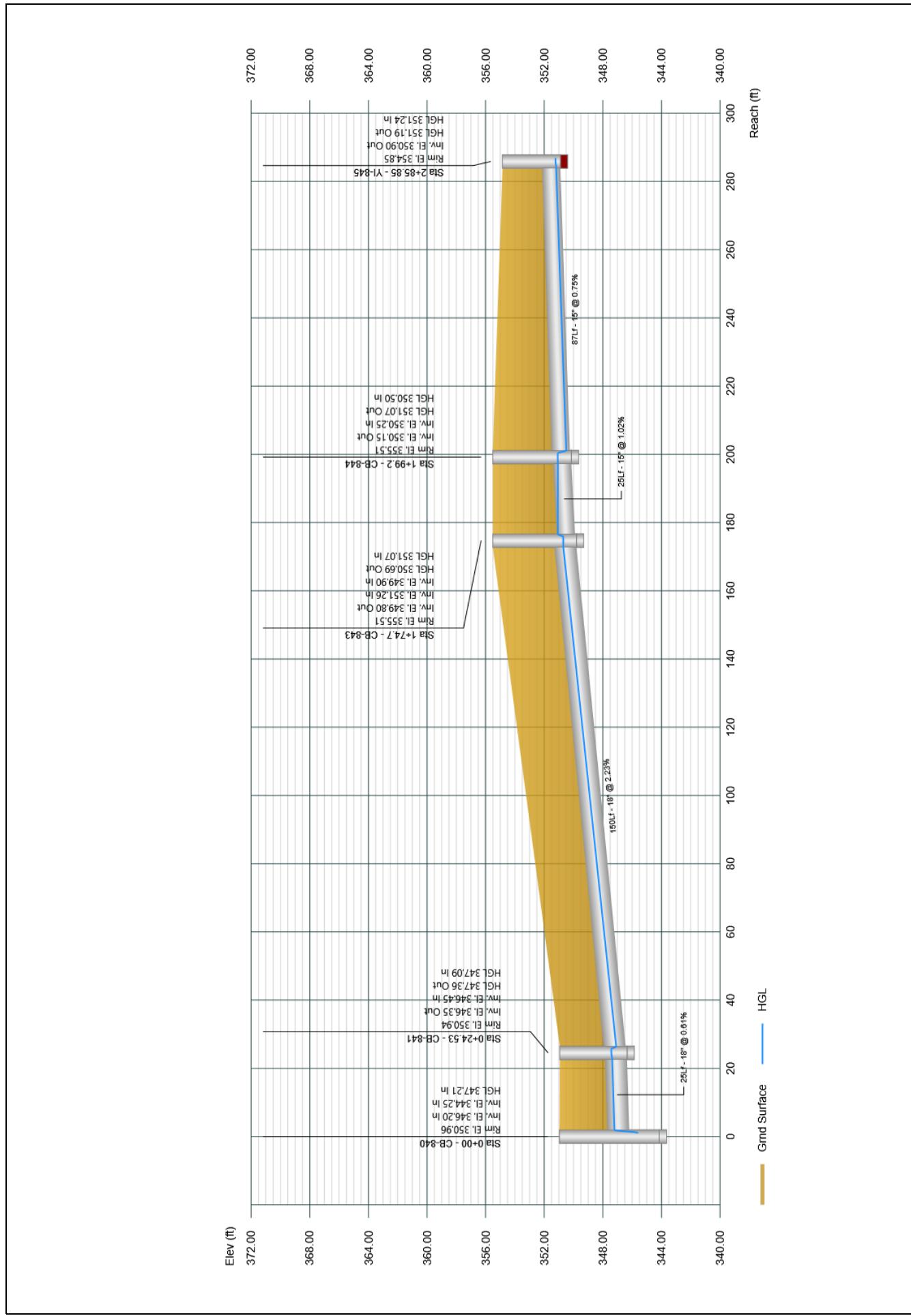
Project File: Storm System 800.sws

Profile View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 800

02-21-2022



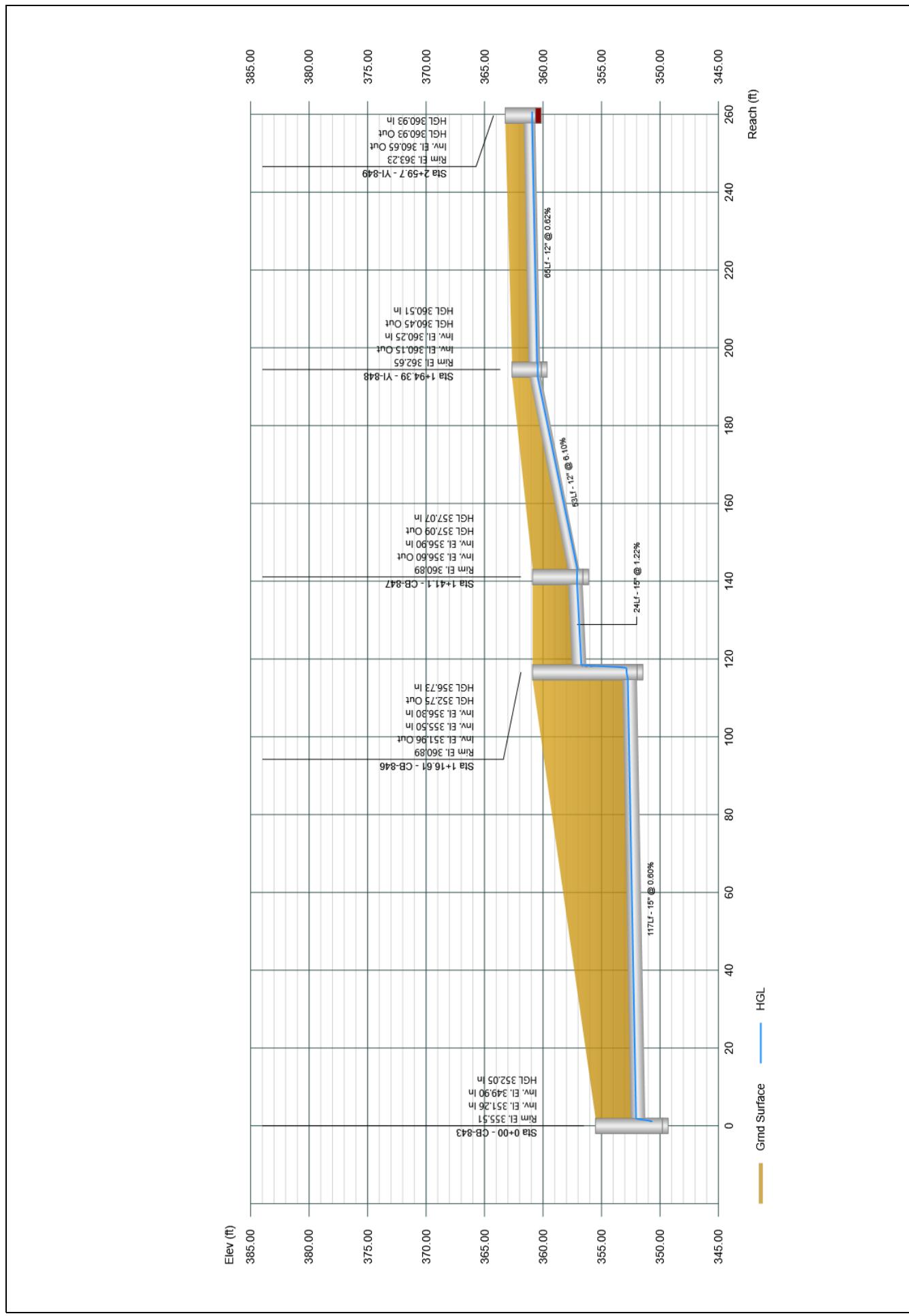
Project File: Storm System 800.sws

Profile View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 800

02-21-2022



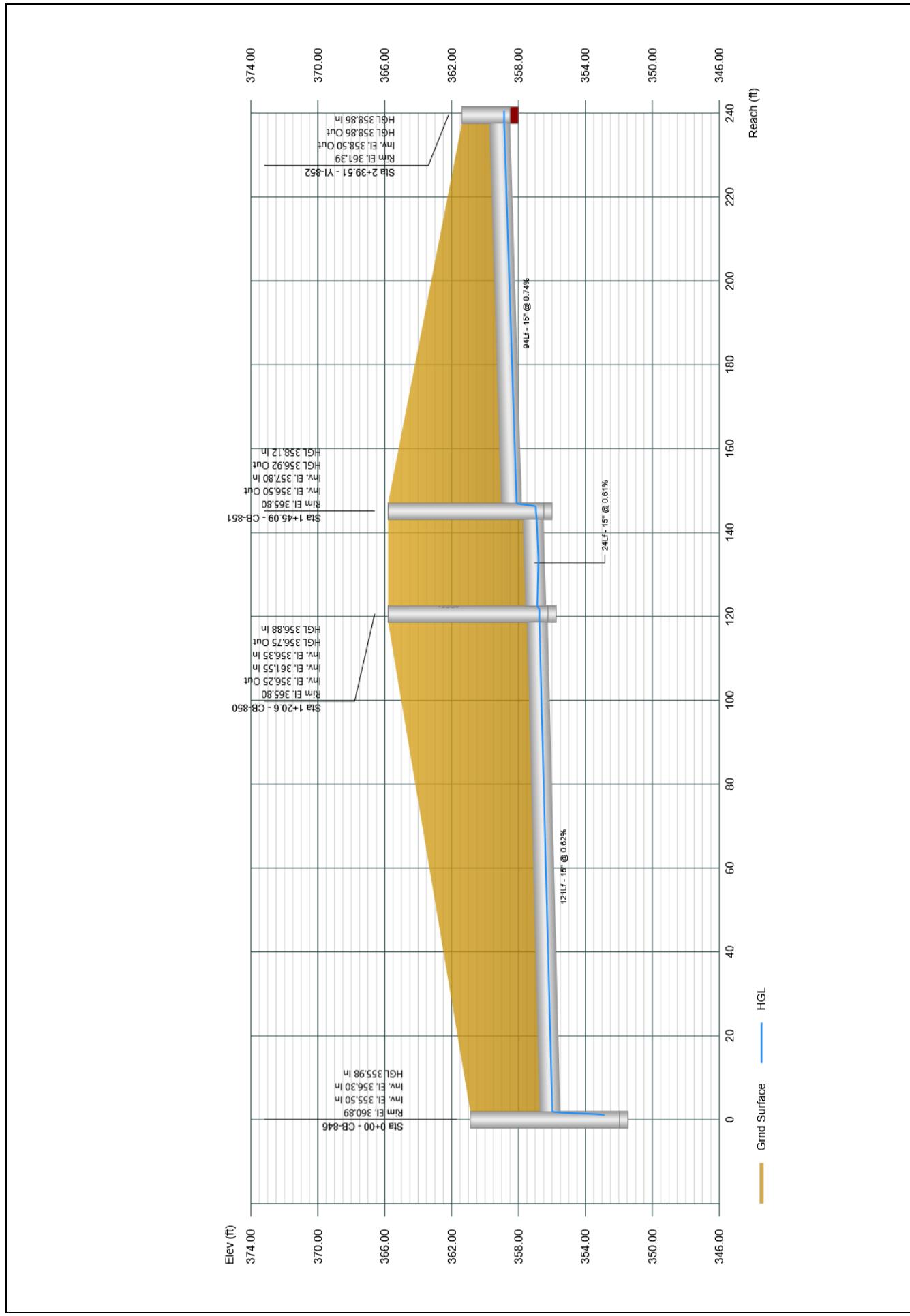
Project File: Storm System 800.sws

Profile View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 800

02-21-2022

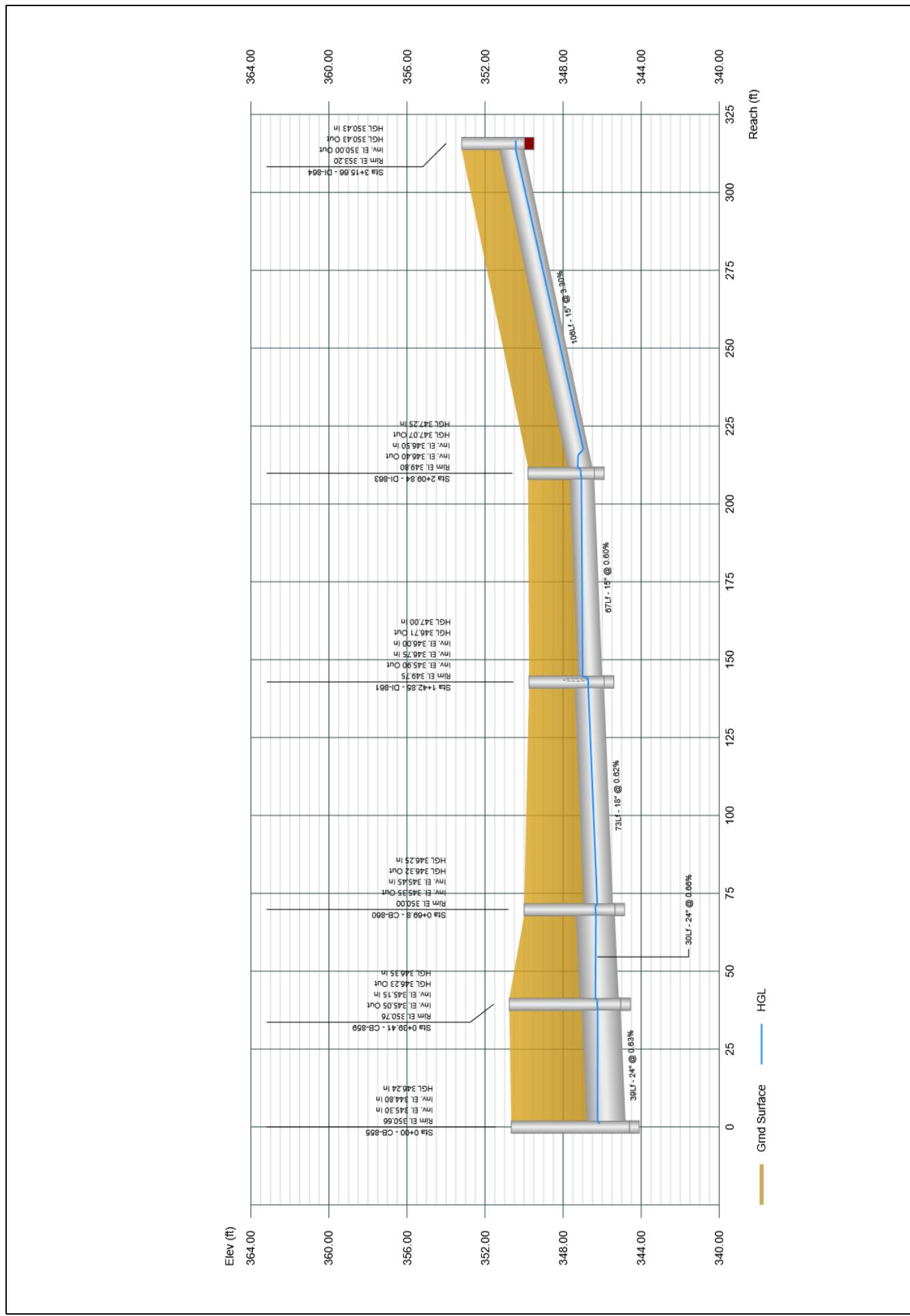


Profile View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 800

02-21-2022



Project File: Storm System 800.sws

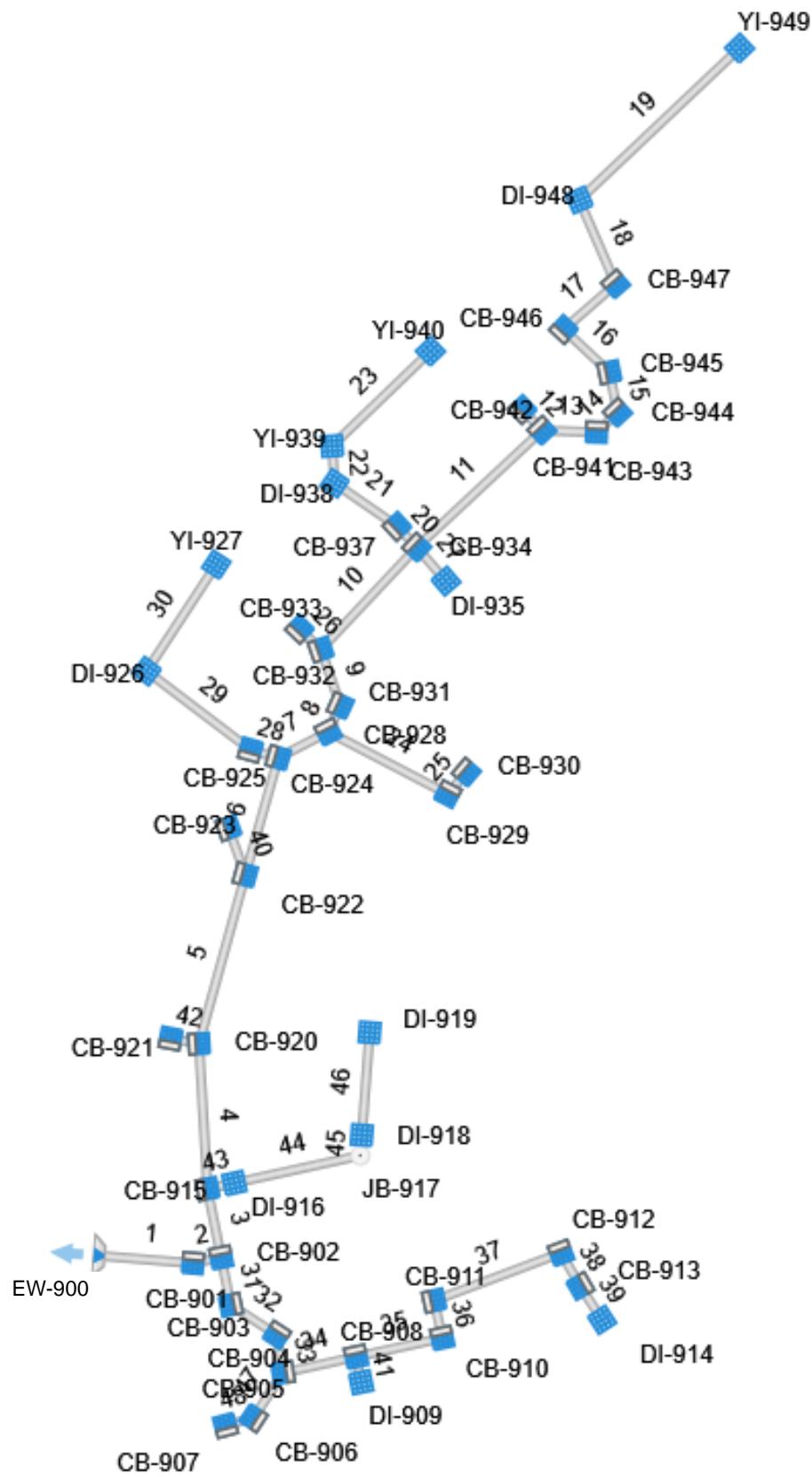
SYSTEM 900 – REPORTS AND PROFILES

Plan View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 900

02-21-2022



Storm Sewer Tabulation

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 900

02-21-2022

Line ID	Length (ft)	Drng Area		C x A		Tc		Intensity	Q Total (cfs)	Capacity (cfs)	Velocity (ft/s)	Line		Invert Elev		HGL Elev		Surface Elev		Line No	
		Incr (ac)	Total (ac)	Incr (C)	Total (C)	Inlet (min)	Syst (min)					Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)		
900-901	74.99	0.150	11.310	0.85	0.13	7.64	5.0	8.09	6.30	48.09	272.47	6.44	42	7.33	315.50	310.00	317.62	313.50	322.18	316.00	1
901-902	24.50	0.130	11.160	0.75	0.10	7.51	5.0	8.04	6.31	47.37	90.90	7.93	42	0.82	320.00	319.80	322.11	321.86	327.18	327.18	2
902-915	59.49	0.130	8.090	0.75	0.10	5.40	5.0	7.92	6.34	34.21	54.69	7.52	36	0.67	321.40	321.00	323.26	322.82	327.52	327.18	3
915-920	123.46	0.150	5.620	0.75	0.11	3.95	5.0	7.74	6.39	25.20	60.10	8.77	30	2.15	324.65	322.00	326.33	323.24	330.59	327.52	4
920-922	148.69	0.100	5.300	0.75	0.08	3.70	5.0	7.57	6.43	23.80	86.73	10.16	30	4.47	331.70	325.05	333.33	326.03	337.33	330.59	5
922-924	103.33	0.140	5.120	0.90	0.13	3.57	5.0	7.45	6.46	23.05	83.17	9.59	30	4.11	336.05	331.80	337.65	332.82	342.19	337.33	6
924-928	47.79	0.070	4.600	0.80	0.06	3.16	5.0	7.39	6.48	20.44	80.69	8.48	30	3.87	338.50	336.65	340.01	337.71	344.93	342.19	7
0.21	24.59	0.130	4.060	0.73	0.09	2.76	5.0	7.33	6.49	17.93	41.36	5.35	30	1.02	338.85	338.60	340.29	340.46	344.97	344.93	8
931-932	50.50	0.070	3.930	0.85	0.06	2.67	5.0	7.23	6.52	17.39	40.81	5.58	30	0.99	339.45	338.95	340.84	340.62	347.03	344.97	9
932-934	118.94	0.150	3.660	0.78	0.12	2.46	5.0	6.94	6.60	16.22	35.68	5.41	30	0.76	340.45	339.55	341.80	341.17	352.58	347.03	10
934-941	145.43	0.100	2.110	0.85	0.09	1.45	5.0	6.59	6.70	9.71	22.58	6.01	24	1.00	349.00	347.55	350.10	348.50	357.12	352.58	11
941-942	24.50	0.470	0.470	0.75	0.35	0.35	5.0	5.00	7.19	2.53	5.05	4.04	15	0.61	352.85	352.70	353.49	353.33	357.12	357.12	12
941-943	46.32	0.220	1.540	0.75	0.17	1.01	5.0	6.44	6.74	6.83	18.20	3.51	24	0.65	349.40	349.10	350.46	350.47	358.19	357.12	13
943-944	24.50	0.200	1.320	0.75	0.15	0.85	5.0	6.36	6.76	5.73	8.22	5.06	18	0.61	350.05	349.90	350.97	350.81	358.19	358.19	14
944-945	35.09	0.180	1.120	0.75	0.14	0.70	5.0	6.25	6.80	4.74	8.87	3.48	18	0.71	350.40	350.15	351.38	351.37	358.49	358.19	15
945-946	53.06	0.100	0.940	0.70	0.07	0.56	5.0	6.06	6.85	3.86	5.24	4.42	15	0.66	351.00	350.65	351.79	351.54	358.75	358.49	16
946-947	58.53	0.110	0.840	0.70	0.08	0.49	5.0	5.83	6.92	3.41	4.99	3.65	15	0.60	351.45	351.10	352.25	352.12	358.68	358.75	17
947-948	77.85	0.290	0.730	0.60	0.17	0.42	5.0	5.52	7.02	2.92	4.89	3.57	15	0.57	352.00	351.55	352.69	352.50	356.38	358.68	18
948-949	187.39	0.440	0.440	0.55	0.24	0.24	5.0	5.00	7.19	1.74	9.84	2.66	15	1.98	355.80	352.10	356.33	353.03	360.08	356.38	19
934-937	24.50	0.210	0.580	0.75	0.16	0.36	5.0	5.68	6.97	2.49	6.52	4.25	15	1.02	348.25	348.00	348.88	348.58	352.58	352.58	20
937-938	64.36	0.030	0.370	0.45	0.01	0.20	5.0	5.52	7.02	1.41	12.84	2.57	15	3.96	350.90	348.35	351.37	349.09	353.88	352.58	21
938-939	31.69	0.200	0.340	0.55	0.11	0.19	5.0	5.44	7.04	1.32	6.32	4.45	12	2.68	352.00	351.15	352.49	351.50	354.81	353.88	22

Notes: IDF File = The Point.IDF, Return Period = 10-yr.

Project File: Storm System 900.sws

Storm Sewer Tabulation

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 900

02-21-2022

Line ID	Length (ft)	Drng Area		C x A		Tc		Intensity	Capacity (cfs)	Velocity (ft/s)	Line		Invert Elev		HGL Elev		Surface Elev		Line No	
		Incr (ac)	Total (ac)	Incr (C)	Total (C)	Inlet (min)	Syst (min)				Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)		
939-940	116.01	0.140	0.140	0.55	0.08	0.08	5.0	5.00	7.19	0.55	5.43	1.92	12	1.98	354.40	352.10	354.71	352.66	354.81	23
928-929	114.28	0.300	0.470	0.70	0.21	0.34	5.0	5.13	7.14	2.41	11.14	5.38	15	2.98	344.05	340.65	344.67	341.06	344.93	24
929-930	24.50	0.170	0.170	0.75	0.13	0.13	5.0	5.00	7.19	0.92	5.05	1.38	15	0.61	344.30	344.15	344.90	344.90	348.58	25
932-933	24.95	0.200	0.200	0.75	0.15	0.15	5.0	5.00	7.19	1.08	6.46	3.27	15	1.00	343.00	342.75	343.42	343.12	347.26	347.03
934-935	37.78	0.820	0.820	0.65	0.53	0.53	5.0	5.00	7.19	3.83	6.62	4.98	15	1.05	342.30	341.90	343.08	342.62	345.00	352.58
924-925	24.50	0.170	0.380	0.75	0.13	0.29	5.0	5.68	6.97	1.99	5.83	3.60	15	0.82	337.85	337.65	338.41	338.24	342.19	27
925-926	110.66	0.090	0.210	0.75	0.07	0.16	5.0	5.34	7.08	1.11	10.28	2.41	15	2.53	340.75	337.95	341.18	338.59	344.02	29
926-927	108.01	0.120	0.120	0.75	0.09	0.09	5.0	5.00	7.19	0.65	6.59	3.90	12	2.91	344.15	341.00	344.49	341.22	347.12	30
902-903	40.99	0.060	0.290	0.70	0.04	0.04	5.0	5.98	6.87	13.85	37.91	4.61	30	0.85	321.50	321.15	322.78	322.91	327.35	31
903-904	46.68	0.150	2.880	0.75	0.11	0.97	5.0	5.87	6.91	13.63	20.94	6.44	24	0.86	322.20	321.80	323.51	323.05	330.10	32
904-905	32.54	0.050	2.730	0.80	0.04	1.86	5.0	5.79	6.93	12.90	21.55	6.30	24	0.91	322.60	322.30	323.87	323.51	330.02	33
905-908	63.51	0.050	2.290	0.85	0.04	1.55	5.0	5.71	6.96	10.77	49.17	8.01	24	4.73	328.00	325.00	329.16	325.73	333.06	34
908-910	74.83	0.090	1.550	0.85	0.08	1.06	5.0	5.59	6.99	7.39	21.54	7.70	18	4.21	331.70	328.55	332.74	329.22	336.65	35
910-911	32.50	0.130	1.460	0.75	0.10	0.98	5.0	5.50	7.02	6.89	9.21	5.51	18	0.77	332.15	331.90	333.16	332.89	336.65	36
911-912	115.06	0.300	1.330	0.75	0.23	0.88	5.0	5.21	7.12	6.29	11.37	4.63	18	1.17	333.60	332.25	334.56	333.50	342.43	37
912-913	32.50	0.160	1.030	0.85	0.14	0.66	5.0	5.11	7.15	4.71	6.20	5.26	15	0.92	334.25	333.95	335.12	334.79	342.43	38
913-914	34.09	0.870	0.870	0.60	0.52	0.52	5.0	5.00	7.19	3.75	6.10	4.08	15	0.89	334.85	334.55	335.63	335.57	337.45	39
922-923	42.30	0.080	0.080	0.75	0.06	0.06	5.0	5.00	7.19	0.43	12.75	1.35	15	3.90	334.70	333.05	334.96	334.10	338.96	40
908-909	22.07	0.690	0.690	0.65	0.45	0.45	5.0	5.00	7.19	3.22	21.30	6.99	15	10.88	331.20	328.80	331.92	329.20	334.49	41
920-921	24.50	0.170	0.170	0.78	0.13	0.13	5.0	5.00	7.19	0.95	6.52	1.04	15	1.02	326.35	326.10	327.12	327.13	330.59	42
915-916	23.37	0.250	2.340	0.65	0.16	1.35	5.0	5.52	7.02	9.49	27.69	5.87	24	1.50	323.00	322.65	324.09	323.61	327.52	43
916-917	109.40	0.000	2.090	0.00	0.00	1.19	0.0	5.20	7.12	8.47	18.09	5.35	24	0.64	323.80	323.10	324.83	323.00	329.25	44

Notes: IDF File = The Point.IDF, Return Period = 10-yr.

Project File: Storm System 900.sws

Storm Sewer Tabulation

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 900

02-21-2022

Line ID	Length (ft)	Drng Area		C x A		Tc		Intensity (in/hr)	Capacity (cfs)	Velocity (ft/s)	Line		Invert Elev		HGL Elev		Surface Elev		Line No	
		Incr (ac)	Total (ac)	Incr (C)	Total (C)	Inlet (min)	Syst (min)				Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)		
917-918	17.38	1.280	2.090	0.55	0.70	1.19	5.0	5.16	7.13	8.49	11.39	6.21	18	1.18	324.40	324.20	325.51	325.25	332.00	45
918-919	87.38	0.810	0.810	0.60	0.49	0.49	5.0	5.00	7.19	3.49	13.47	3.70	15	4.35	328.55	324.75	329.30	326.00	331.86	46
905-906	45.95	0.200	0.390	0.65	0.13	0.27	5.0	5.13	7.14	1.95	8.57	1.76	18	0.67	323.65	323.35	324.43	324.43	328.39	47
906-907	24.55	0.190	0.190	0.75	0.14	0.14	5.0	5.00	7.19	1.02	5.00	3.04	15	0.60	324.10	323.95	324.51	324.34	328.43	48

Notes: IDF File = The Point.IDF, Return Period = 10-yr.

Project File: Storm System 900.sws

Energy Grade Line Calculations

Project Name: Storm System 900

Stormwater Studio 2022 v 3.0.0.29

02-21-2022

Line No	Line Size (in)	Q (cfs)	Downstream						Upstream						Pipe			Junction				
			Invert Elev (ft)	Depth (ft)	Area (sqft)	HGL Elev (ft)	Vel Head (ft)	EGL Elev (ft)	Invert Elev (ft)	Depth (ft)	Area (sqft)	HGL Elev (ft)	Vel Head (ft/s)	EGL Elev (ft)	n Value	Energy Loss (ft)	HGLa Elev (ft)	EGLa Elev (ft)	Energy Loss (ft)			
1	42	48.09	310.00	3.50	9.62	313.50	5.00	0.39	313.89	74.99	315.50	2.12 ²	6.11	317.62	7.87	0.96	318.59	0.013	4.698	317.62	318.59	0.00
2	42	47.37	319.80	2.06†	5.90	321.86	8.03	1.00	322.86	24.50	320.00	2.11 ²	6.05	322.11	7.83	0.95	323.06	0.013	0.200	322.11	323.06	0.00
3	36	34.21	321.00	1.82†	4.48	322.82	7.63	0.91	323.72	59.49	321.40	1.86 ²	4.62	323.26	7.41	0.85	324.12	0.013	0.400	323.26	324.12	0.00
4	30	25.20	322.00	1.24†	2.44	323.24	10.35	1.66	324.49	123.46	324.65	1.68 ²	3.50	326.33	7.20	0.80	327.13	0.013	2.641	326.33	327.13	0.00
5	30	23.80	325.05	0.98†	1.79	326.03	13.29	2.75	327.47	148.69	331.70	1.63 ²	3.39	333.33	7.02	0.77	334.10	0.013	6.629	333.33	334.10	0.00
6	30	23.05	331.80	1.02†	1.88	332.82	12.26	2.34	334.24	103.33	336.05	1.60 ²	3.33	337.65	6.92	0.75	338.40	0.013	4.164	337.65	338.40	0.00
7	30	20.44	336.65	1.06†	1.97	337.71	10.37	1.67	338.84	47.79	338.50	1.51 ²	3.10	340.01	6.59	0.68	340.69	0.013	1.850	340.01	340.69	0.00
8	30	17.93	338.60	1.86	3.91	340.46	4.58	0.33	340.79	24.59	338.85	1.44	2.93	340.29	6.13	0.58	340.87	0.013	0.088	340.32	340.91	0.03
9	30	17.39	338.95	1.67	3.49	340.62	4.98	0.39	341.01	50.50	339.45	1.39 ²	2.81	340.84	6.18	0.59	341.44	0.013	0.430	340.84	341.44	0.00
10	30	16.22	339.55	1.62	3.37	341.17	4.81	0.36	341.53	118.94	340.45	1.35 ²	2.69	341.80	6.02	0.56	342.36	0.013	0.827	341.80	342.36	0.00
11	24	9.71	347.55	0.95†	1.48	348.50	6.57	0.67	349.12	145.43	349.00	1.10 ²	1.78	350.10	5.46	0.46	350.57	0.013	1.450	350.10	350.57	0.00
12	15	2.53	352.70	0.63†	0.62	353.33	4.08	0.26	353.59	24.50	352.85	0.64	0.63	353.49	4.01	0.25	353.74	0.013	0.150	353.59	353.84	0.10
13	24	6.83	349.10	1.37	2.30	350.47	2.97	0.14	350.61	46.32	349.40	1.06	1.68	350.46	4.06	0.26	350.71	0.013	0.101	350.49	350.74	0.03
14	18	5.73	349.90	0.91†	1.13	350.81	5.09	0.40	351.22	24.50	350.05	0.92	1.14	350.97	5.04	0.39	351.37	0.013	0.150	351.07	351.47	0.10
15	18	4.74	350.15	1.22	1.54	351.37	3.09	0.15	351.52	35.09	350.40	0.98	1.22	351.38	3.87	0.23	351.61	0.013	0.099	351.43	351.66	0.05
16	15	3.86	350.65	0.89	0.94	351.54	4.12	0.26	351.81	53.06	351.00	0.79	0.82	351.79	4.73	0.35	352.14	0.013	0.331	351.88	352.23	0.09
17	15	3.41	351.10	1.02	1.07	352.12	3.17	0.16	352.28	58.53	351.45	0.80	0.83	352.25	4.13	0.27	352.51	0.013	0.233	352.33	352.60	0.08
18	15	2.92	351.55	0.95	1.00	352.50	2.92	0.13	352.64	77.85	352.00	0.69	0.69	352.69	4.23	0.28	352.96	0.013	0.329	352.78	353.06	0.09
19	15	1.74	352.10	0.93	0.97	353.03	1.79	0.05	353.07	187.39	355.80	0.53 ²	0.49	356.33	3.53	0.19	356.53	0.012	3.451	356.33	356.53	0.00
20	15	2.49	348.00	0.58†	0.55	348.58	4.50	0.31	348.88	24.50	348.25	0.63 ²	0.62	348.88	4.01	0.25	349.13	0.013	0.250	348.88	349.13	0.00
21	15	1.41	348.35	0.74	0.76	349.09	1.85	0.05	349.15	64.36	350.90	0.47 ²	0.43	351.37	3.29	0.17	351.54	0.013	2.392	351.37	351.54	0.00
22	12	1.32	351.15	0.35†	0.24	351.50	5.44	0.46	351.82	31.69	352.00	0.49 ²	0.38	352.49	3.47	0.19	352.67	0.012	0.850	352.49	352.67	0.00

Notes: Return Period = 10-yr. ¹ Critical depth. ² Supercritical.

Project File: Storm System 900.sws

Energy Grade Line Calculations

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 900

02-21-2022

Line No	Line Size (in)	Q (cfs)	Downstream						Upstream						Pipe			Junction				
			Invert Elev (ft)	Depth (ft)	Area (sqft)	HGL Elev (ft)	Vel Head (ft)	EGL Elev (ft)	Invert Elev (ft)	Depth (ft)	Area (sqft)	HGL Elev (ft)	Vel Head (ft/s)	EGL Elev (ft)	n Value	Energy Loss (ft)	HGLa Elev (ft)	EGLa Elev (ft)	Energy Loss (ft)			
23	12	0.55	352.10	0.56	0.45	352.66	1.23	0.02	352.68	116.01	0.32 ²	0.21	354.71	2.60	0.11	354.82	0.012	2.135	354.82	0.00		
24	15	2.41	340.85	0.41‡	0.35	341.06	6.81	0.72	341.52	114.28	0.62 ²	0.61	344.67	3.96	0.24	344.92	0.013	3.400	344.67	344.92	0.00	
25	15	0.92	344.15	0.75	0.77	344.90	1.19	0.02	344.92	24.50	0.60	0.58	344.90	1.57	0.04	344.94	0.013	0.018	344.92	344.96	0.02	
26	15	1.08	342.75	0.37‡	0.31	343.12	3.51	0.19	343.31	24.95	0.42 ²	0.36	343.42	3.02	0.14	343.56	0.013	0.250	343.42	343.56	0.00	
27	15	3.83	341.90	0.72‡	0.73	342.62	5.23	0.42	343.04	37.78	0.78 ²	0.81	343.08	4.73	0.35	343.43	0.013	0.397	343.08	343.43	0.00	
28	15	1.99	337.65	0.59	0.57	338.24	3.50	0.19	338.43	24.50	0.56	0.54	337.85	3.70	0.21	338.63	0.013	0.198	338.41	338.63	0.00	
29	15	1.11	337.95	0.64	0.63	338.59	1.76	0.05	338.64	110.66	0.42 ²	0.36	340.75	0.36	0.14	341.32	0.013	2.682	341.18	341.32	0.00	
30	12	0.65	341.00	0.22‡	0.13	341.22	5.07	0.40	341.46	108.01	0.34 ²	0.24	344.49	2.73	0.12	344.61	0.012	3.148	344.49	344.61	0.00	
31	30	13.85	321.15	1.76	3.69	322.91	3.75	0.22	323.13	40.99	321.50	1.28	322.78	5.47	0.47	323.25	0.013	0.118	322.80	323.26	0.02	
32	24	13.63	321.80	1.25‡	2.06	323.05	6.62	0.68	323.72	46.68	322.20	1.31 ²	2.18	323.51	6.26	0.61	324.12	0.013	0.400	323.51	324.12	0.00
33	24	12.90	322.30	1.21‡	1.99	323.51	6.47	0.65	324.22	32.54	322.60	1.27 ²	2.11	323.87	6.12	0.58	324.45	0.013	0.227	323.87	324.45	0.00
34	24	10.77	325.00	0.73‡	1.04	325.73	10.34	1.66	326.67	63.51	328.00	1.16 ²	1.89	329.16	5.69	0.50	329.67	0.013	3.001	329.16	329.67	0.00
35	18	7.39	328.55	0.67‡	0.76	329.22	9.73	1.47	330.09	74.83	331.70	1.04 ²	1.30	332.74	5.67	0.50	333.24	0.013	3.149	332.74	333.24	0.00
36	18	6.89	331.90	0.99‡	1.24	332.89	5.55	0.48	333.41	32.50	332.15	1.01	1.26	333.16	5.47	0.47	333.62	0.013	0.211	333.21	333.67	0.05
37	18	6.29	332.25	1.25	1.58	333.50	3.99	0.25	333.75	115.06	333.60	0.96 ²	1.19	334.56	5.28	0.43	334.99	0.013	1.241	334.56	334.99	0.00
38	15	4.71	333.95	0.84‡	0.88	334.79	5.37	0.45	335.23	32.50	334.25	0.87	0.91	335.12	5.15	0.41	335.53	0.013	0.300	335.29	335.70	0.17
39	15	3.75	334.55	1.02	1.07	335.57	3.49	0.19	335.76	34.09	334.85	0.78	0.80	335.63	4.67	0.34	335.97	0.013	0.210	335.76	336.10	0.14
40	15	0.43	333.05	1.05	1.10	334.10	0.39	0.00	334.10	42.30	334.70	0.26 ²	0.19	334.96	2.30	0.08	335.04	0.013	0.947	334.96	335.04	0.00
41	15	3.22	328.80	0.40‡	0.34	329.20	9.57	1.42	329.82	22.07	331.20	0.72 ²	0.73	331.92	4.42	0.30	332.22	0.013	2.401	331.92	332.22	0.00
42	15	0.95	326.10	1.03	1.08	327.13	0.88	0.01	327.14	24.50	326.35	0.77	0.80	327.12	1.19	0.02	327.15	0.013	0.008	327.14	327.16	0.01
43	24	9.49	322.65	0.96‡	1.50	323.61	6.33	0.62	324.20	23.37	323.00	1.09 ²	1.75	324.09	5.41	0.46	324.55	0.013	0.350	324.09	324.55	0.00
44	24	8.47	323.10	0.98‡	1.54	324.08	5.51	0.47	324.61	109.40	323.80	1.03 ²	1.63	324.83	5.19	0.42	325.25	0.013	0.638	324.83	325.25	0.00

Notes: Return Period = 10-yr. ² Critical depth. ‡ Supercritical.

Project File: Storm System 900.sws

Energy Grade Line Calculations

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 900

02-21-2022

Line No	Line Size (in)	Q (cfs)	Downstream						Upstream						n Value	EGL Elev (ft)	HGLa Elev (ft)	Energy Loss (ft)	Junction			
			Invert Elev (ft)	Depth (ft)	Area (sqft)	HGL Elev (ft)	Vel Head (ft)	EGL Elev (ft)	Invert Elev (ft)	Depth (ft)	Area (sqft)	HGL Elev (ft)	Vel Head (ft/s)	EGL Elev (ft)								
45	18	8.49	324.20	1.06‡	1.33	325.25	6.37	0.63	325.88	17.38	324.40	1.11 ²	1.40	325.51	6.04	0.57	326.08	0.013	0.204	325.51	326.08	0.00
46	15	3.49	324.75	1.25	1.23	326.00	2.85	0.13	326.13	87.38	328.55	0.75 ²	0.77	329.30	4.56	0.32	329.63	0.013	3.495	329.30	329.63	0.00
47	18	1.95	323.35	1.08	1.37	324.43	1.42	0.03	324.46	45.95	323.65	0.78	0.93	324.43	2.09	0.07	324.50	0.013	0.039	324.45	324.52	0.02
48	15	1.02	323.95	0.39‡	0.33	324.34	3.13	0.15	324.53	24.55	324.10	0.41	0.35	324.51	2.94	0.13	324.64	0.013	0.110	324.58	324.71	0.07

Notes: Return Period = 10-yr. ² Critical depth. ‡ Supercritical.

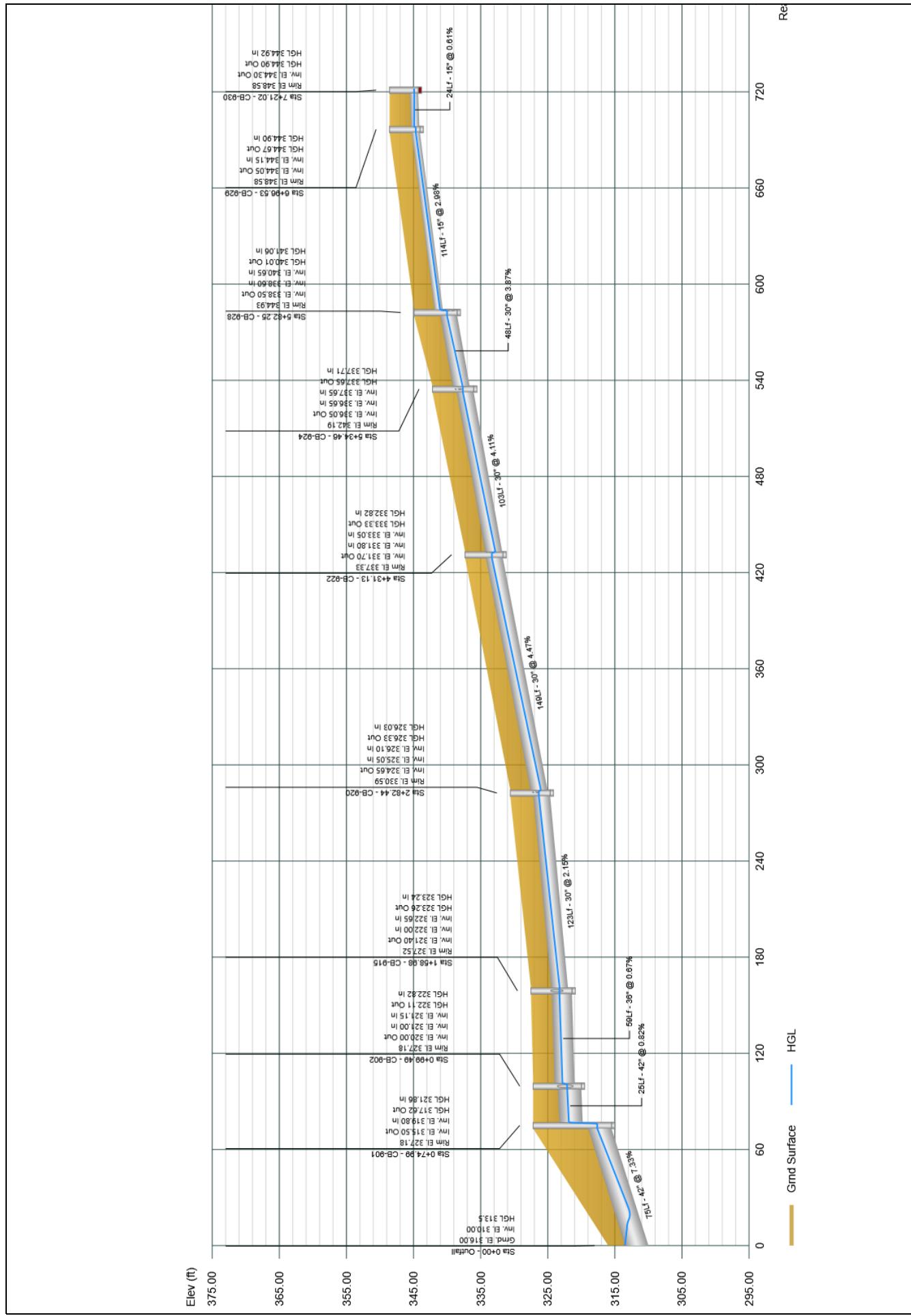
Project File: Storm System 900.sws

Profile View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 900

02-21-2022



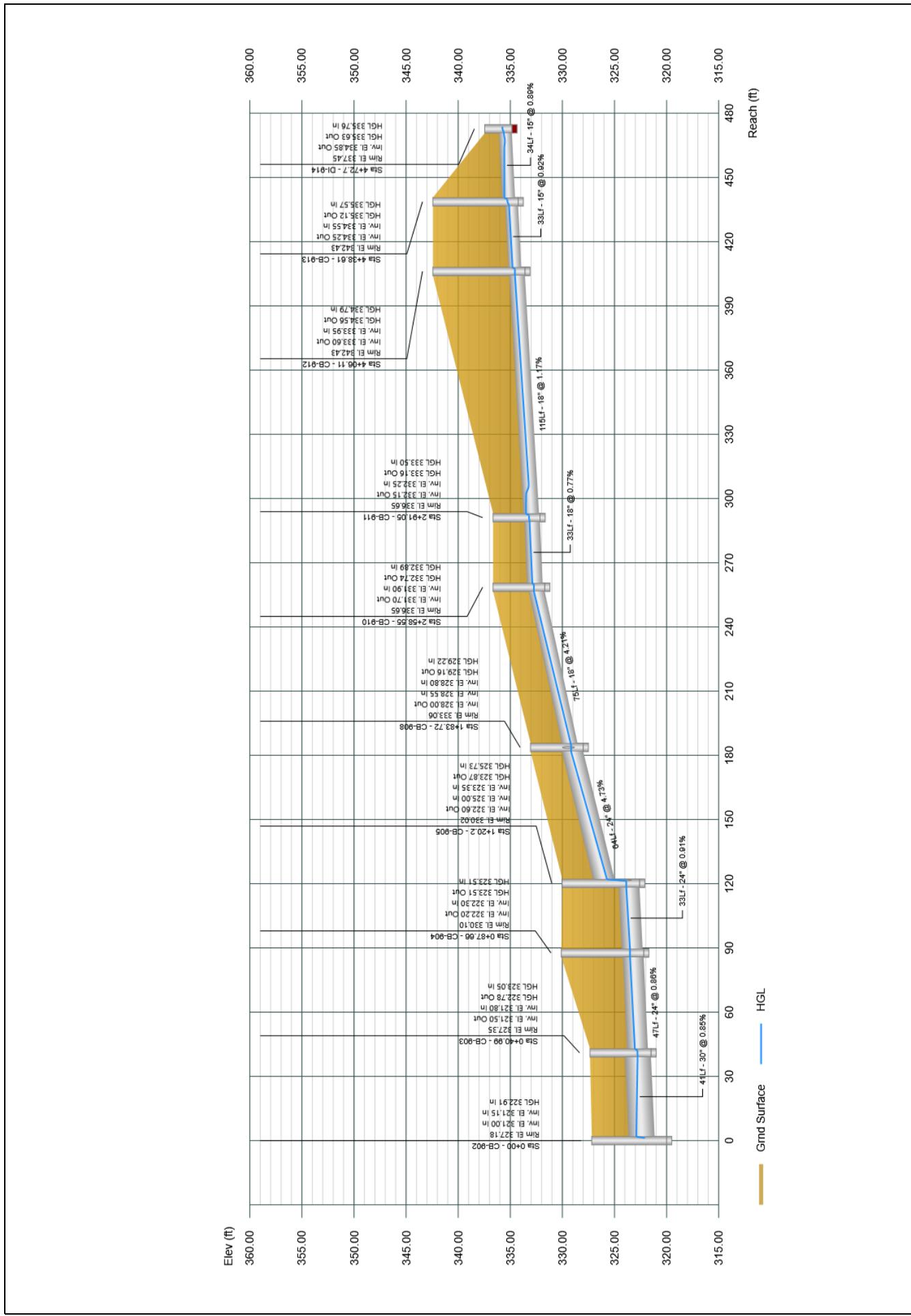
Project File: Storm System 900.sws

Profile View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 900

02-21-2022

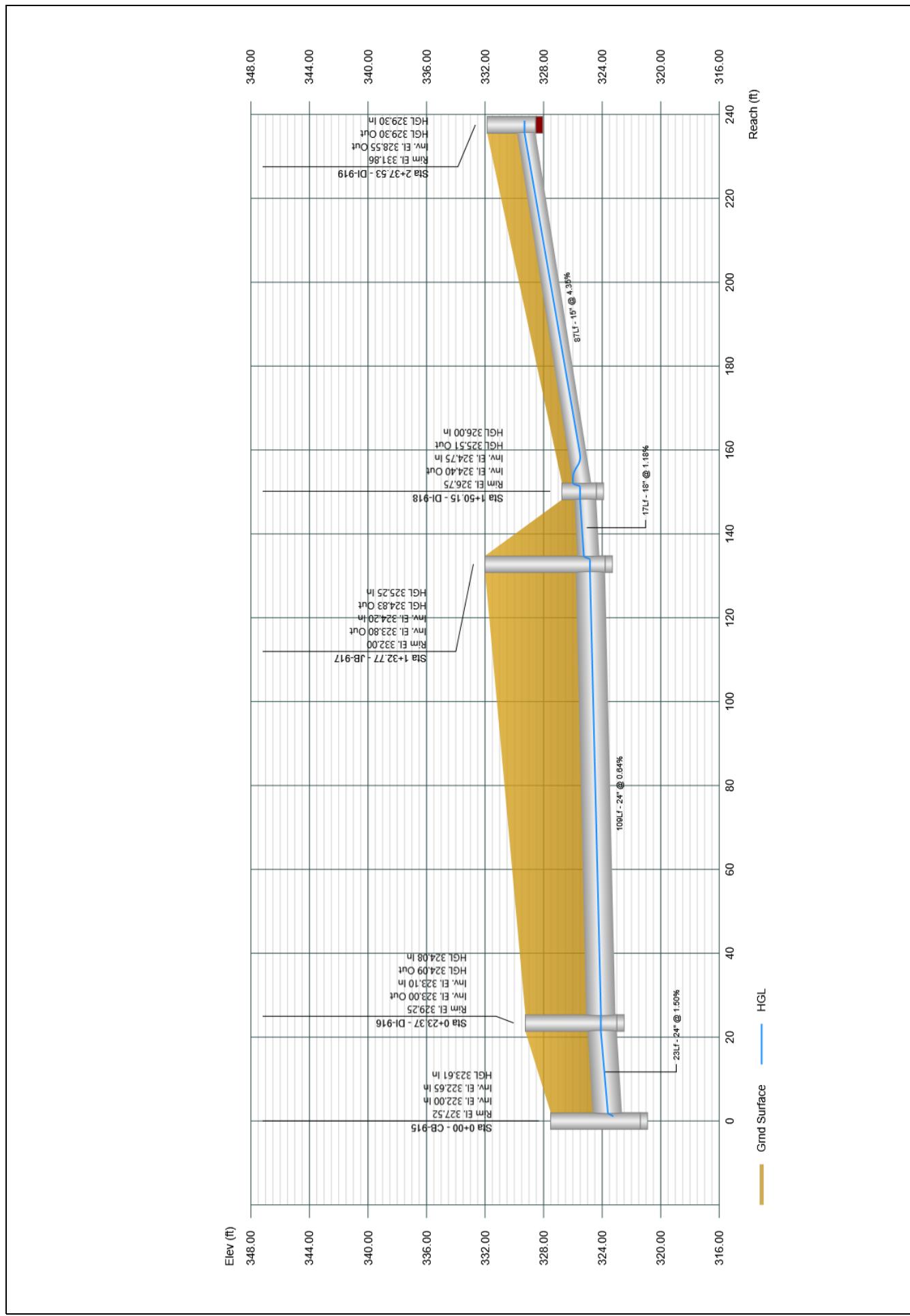


Profile View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 900

02-21-2022



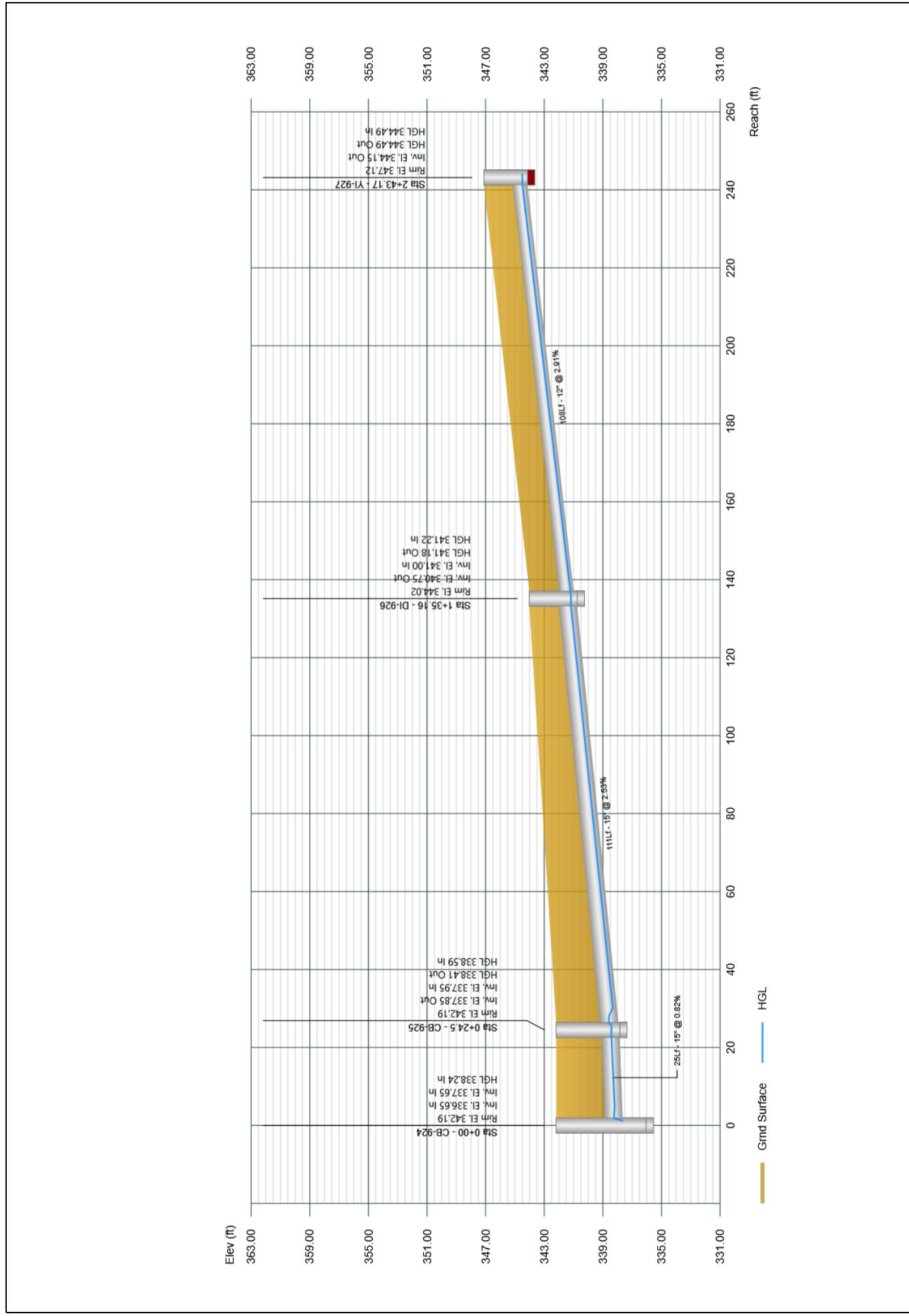
Project File: Storm System 900.sws

Profile View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 900

02-21-2022



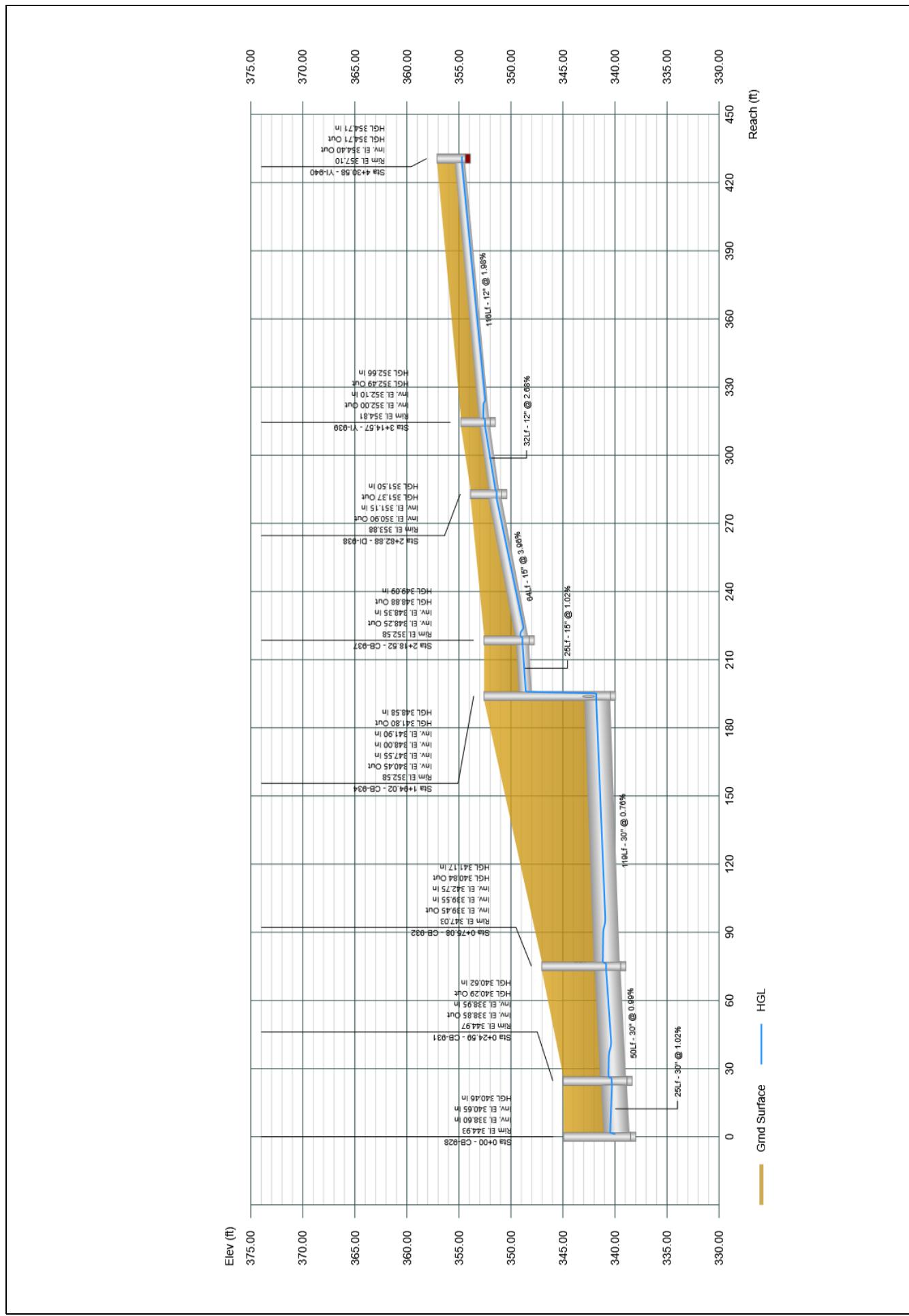
Project File: Storm System 900.sws

Profile View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 900

02-21-2022



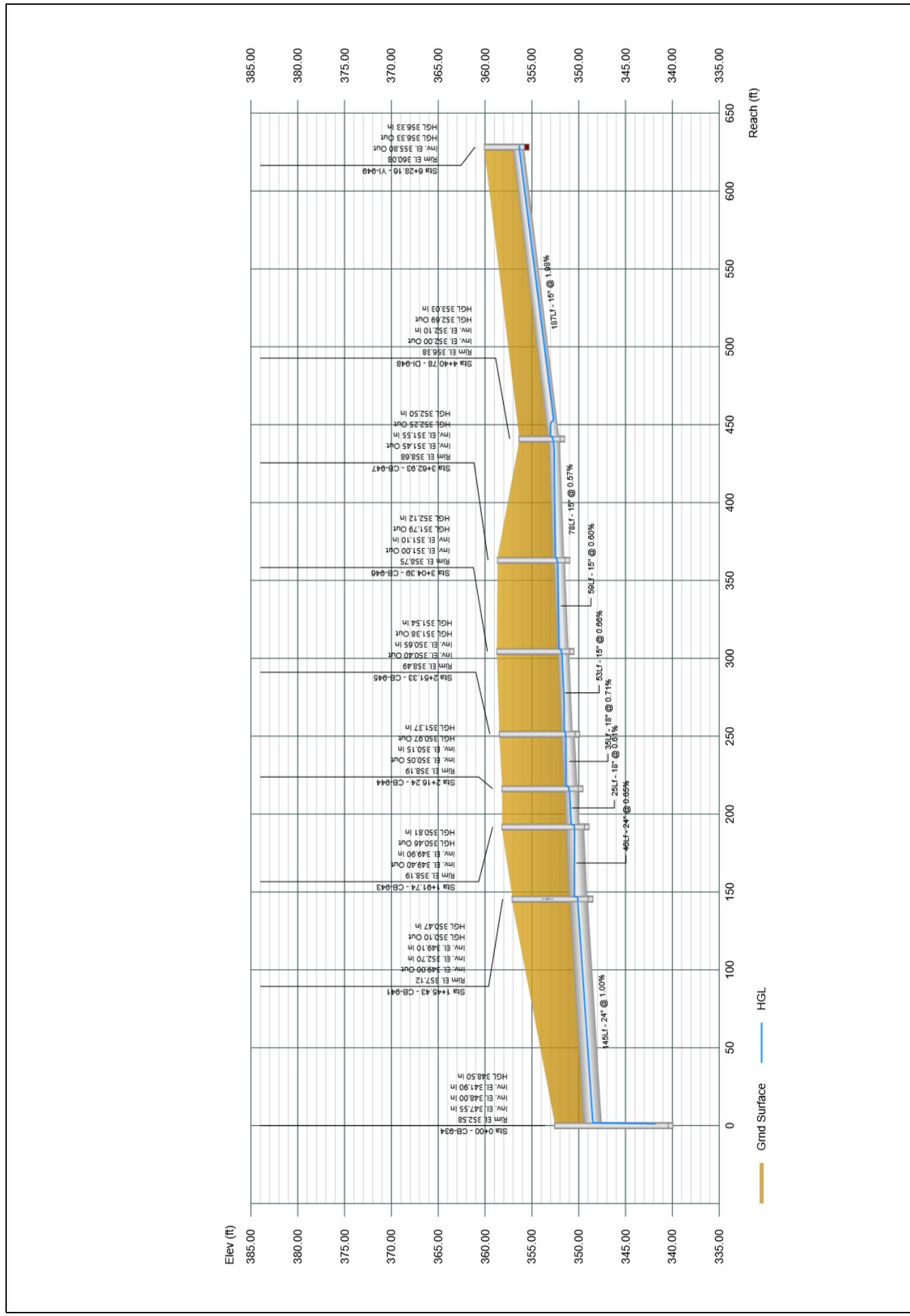
Project File: Storm System 900.sws

Profile View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 900

02-21-2022



Project File: Storm System 900.sws

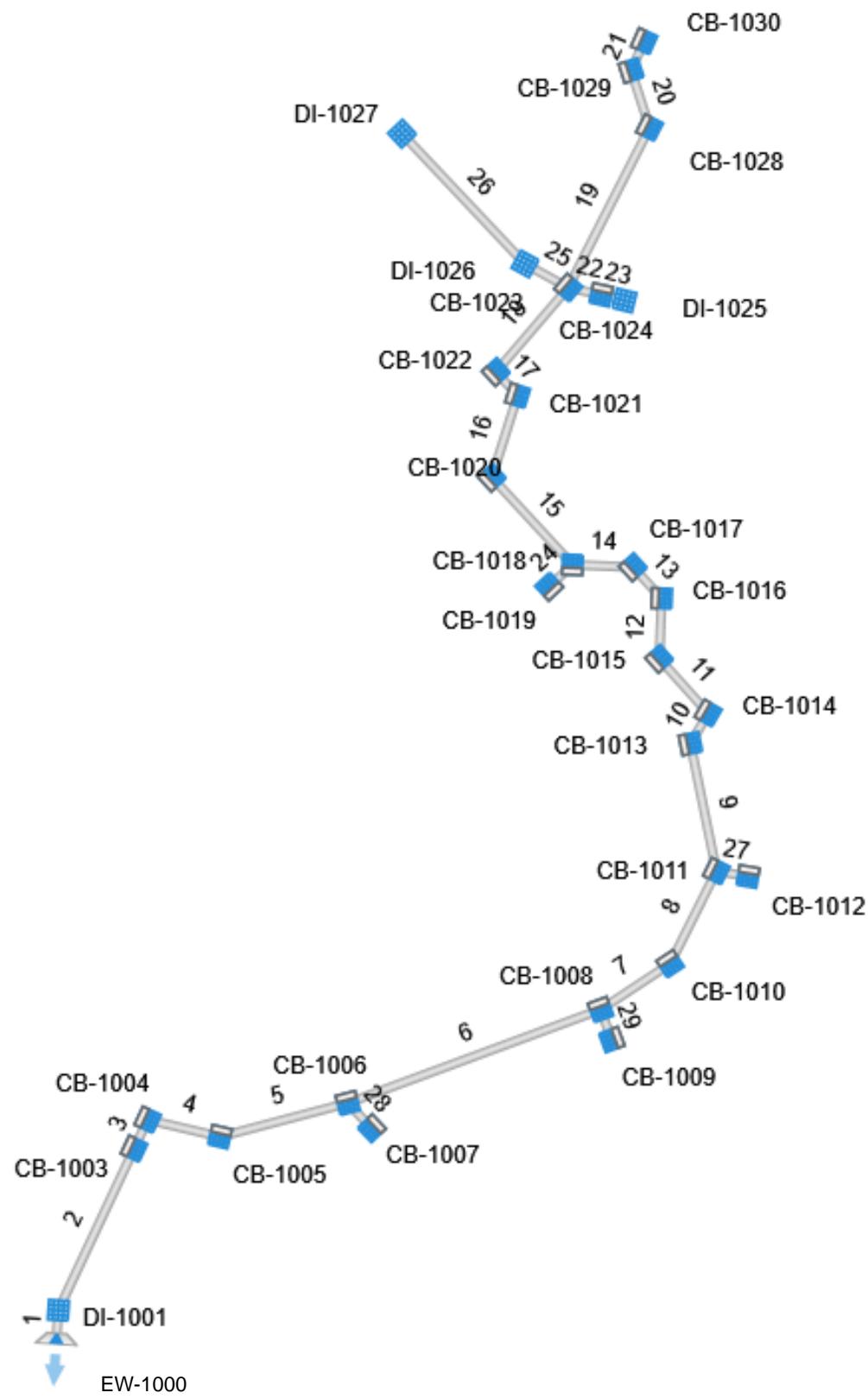
SYSTEM 1000 – REPORTS AND PROFILES

Plan View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 1000

02-21-2022



Storm Sewer Tabulation

Stormwater Studio 2022 v 3.0.0.29
Project Name: Storm System 1000
02-21-2022

Project Name: Storm System 1000

Line ID	Length (ft)	Drng Area		C x A		Tc		Intensity	Q Total (cfs)	Capacity (cfs)	Velocity (ft/s)	Size (in)	Slope (%)	Line		Invert Elev		HGL Elev		Surface Elev		Line No
		Incr (ac)	Total (ac)	Incr (C)	Total (C)	Inlet (min)	Syst (min)							Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
1000-1001	17.48	0.320	4.750	0.65	0.21	3.45	5.0	8.41	6.22	21.42	75.99	4.36	30	3.43	318.60	318.00	322.48	322.43	324.33	320.70	320.70	1
1001-1003	136.72	0.200	4.430	0.75	0.15	3.24	5.0	8.27	6.25	20.24	112.57	5.34	30	7.53	329.00	318.70	330.50	322.63	334.91	324.33	324.33	2
1003-1004	24.50	0.050	4.230	0.65	0.03	3.09	5.0	8.22	6.27	19.34	36.78	6.56	30	0.80	329.30	329.10	330.78	330.53	334.91	334.91	334.91	3
1004-1005	56.79	0.090	4.180	0.75	0.07	3.05	5.0	8.15	6.28	19.19	93.48	9.00	30	5.20	332.35	329.40	333.81	330.33	337.98	334.91	334.91	4
1005-1006	101.19	0.060	4.090	0.75	0.05	2.99	5.0	7.94	6.33	18.92	41.72	6.98	30	1.03	333.50	332.45	334.95	333.72	341.70	337.98	337.98	5
1006-1008	206.31	0.220	3.980	0.75	0.17	2.90	5.0	7.43	6.46	18.78	33.23	6.58	30	0.66	334.95	333.60	336.40	334.97	340.47	341.70	341.70	6
1008-1010	63.78	0.070	3.420	0.75	0.05	2.48	5.0	7.29	6.50	16.15	22.48	7.02	24	0.99	336.10	335.47	337.52	336.80	341.20	340.47	340.47	7
1010-1011	79.35	0.060	3.350	0.85	0.05	2.43	5.0	7.18	6.53	15.89	38.48	8.38	24	2.89	338.50	336.20	339.91	337.20	344.15	341.20	341.20	8
1011-1013	99.76	0.040	3.180	0.85	0.03	2.30	5.0	6.99	6.58	15.11	26.78	7.30	24	1.40	340.00	338.60	341.38	339.76	348.93	344.15	344.15	9
1013-1014	27.02	0.040	3.140	0.80	0.03	2.26	5.0	6.92	6.60	14.93	19.07	5.93	24	0.71	340.30	340.10	341.71	341.70	349.38	348.93	348.93	10
1014-1015	56.00	0.050	3.100	0.75	0.04	2.23	5.0	6.78	6.64	14.81	19.26	5.88	24	0.73	340.80	340.40	342.17	342.07	351.09	349.38	349.38	11
1015-1016	46.27	0.200	3.050	0.75	0.15	2.19	5.0	6.66	6.68	14.63	18.14	5.57	24	0.64	341.20	340.90	342.67	342.57	353.41	351.09	351.09	12
1016-1017	32.50	0.180	2.850	0.75	0.14	2.04	5.0	6.57	6.70	13.68	17.96	4.77	24	0.63	341.50	341.30	343.16	343.09	353.41	353.41	353.41	13
1017-1018	46.36	0.120	2.670	0.75	0.09	1.91	5.0	6.44	6.74	12.85	18.14	4.64	24	0.64	341.90	341.60	343.45	343.38	352.18	353.41	353.41	14
1018-1020	91.00	0.010	2.480	0.90	0.01	1.76	5.0	6.19	6.81	11.97	17.52	5.00	24	0.60	342.55	342.00	343.81	343.67	353.19	352.18	352.18	15
1020-1021	65.80	0.380	2.470	0.65	0.25	1.75	5.0	6.01	6.87	12.01	17.74	5.56	24	0.62	343.05	342.65	344.28	344.03	352.68	353.19	353.19	16
1021-1022	24.50	0.090	2.090	0.85	0.08	1.50	5.0	5.94	6.89	10.34	20.29	4.58	24	0.80	343.35	343.15	344.59	344.64	352.68	352.68	352.68	17
1022-1023	84.99	0.150	2.000	0.75	0.11	1.43	5.0	5.70	6.96	9.92	18.20	4.92	24	0.65	344.00	343.45	345.12	344.81	353.59	352.68	352.68	18
1023-1028	137.56	0.290	0.780	0.75	0.22	0.59	5.0	5.24	7.11	4.16	7.78	5.56	15	1.45	351.30	349.30	352.11	349.97	355.66	353.59	353.59	19
1028-1029	46.02	0.250	0.490	0.75	0.19	0.37	5.0	5.11	7.15	2.63	8.22	3.26	15	1.62	351.40	352.80	352.42	356.69	355.66	355.66	355.66	20
1029-1030	24.55	0.240	0.240	0.75	0.18	0.18	5.0	5.00	7.19	1.29	5.79	2.01	15	0.80	352.45	353.02	353.03	356.72	356.89	356.89	356.89	21
1023-1024	25.68	0.160	0.450	0.85	0.14	0.32	5.0	5.04	7.17	2.33	5.75	4.04	15	0.79	349.45	350.06	349.83	353.70	353.59	353.59	353.59	22

Notes: IDF File = The Point.IDF, Return Period = 10-yr.

Project File: Storm System 1000.sws

Storm Sewer Tabulation

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 1000

02-21-2022

Line ID	Length (ft)	Drng Area		C x A		Tc		Intensity	Total Q	Capacity	Velocity	Line		Invert Elev		HGL Elev		Surface Elev		Line No	
		Incr (ac)	Total (ac)	Incr (C)	Total (C)	Inlet (min)	Syst (min)					Up	Dn	Up	Dn	Up	Dn	Up	Dn		
1024-1025	18.40	0.290	0.290	0.65	0.19	0.19	5.0	5.00	7.19	1.35	13.47	4.36	15	4.35	350.50	349.70	350.97	350.02	353.00	353.70	23
1018-1019	24.50	0.070	0.070	0.85	0.06	0.06	5.0	5.00	7.19	0.43	5.79	2.45	15	0.80	347.90	347.70	348.16	347.94	352.18	352.18	24
1023-1026	37.73	0.100	0.620	0.65	0.07	0.40	5.0	5.56	7.01	2.82	5.22	3.04	15	0.65	344.75	344.50	345.54	345.51	352.60	353.59	25
1026-1027	137.25	0.520	0.520	0.65	0.34	0.34	5.0	5.00	7.19	2.43	5.09	3.39	15	0.62	345.70	344.85	346.32	345.67	348.75	352.60	26
1011-1012	24.49	0.110	0.110	0.78	0.09	0.09	5.0	5.00	7.19	0.62	5.00	0.78	15	0.60	339.90	339.75	340.60	340.60	344.15	344.15	27
1006-1007	26.65	0.050	0.050	0.75	0.04	0.04	5.0	5.00	7.19	0.27	5.59	2.14	15	0.75	337.60	337.40	337.81	337.59	341.87	341.70	28
1008-1009	24.50	0.340	0.340	0.75	0.26	0.26	5.0	5.00	7.19	1.83	5.79	1.98	15	0.80	336.20	336.00	337.00	337.00	340.47	340.47	29

Notes: IDF File = The Point.IDF, Return Period = 10-yr.

Project File: Storm System 1000.sws

Energy Grade Line Calculations

Project Name: Storm System 1000

Stormwater Studio 2021 v 3.0.0.25

07-19-2021

Line No	Line Size (in)	Q (cfs)	Downstream						Upstream						Pipe			Junction				
			Invert Elev (ft)	Depth (ft)	Area (sqft)	HGL Elev (ft)	Vel Head (ft)	EGL Elev (ft)	Invert Elev (ft)	Depth (ft)	Area (sqft)	HGL Elev (ft)	Vel Head (ft/s)	EGL Elev (ft)	n Value	Energy Loss (ft)	HGLa Elev (ft)	EGLa Elev (ft)	Energy Loss (ft)			
1	30	13.76	318.00	2.50	4.91	322.00	2.80	0.12	322.12	17.48	318.60	2.50	4.91	322.02	2.80	0.12	322.14	0.013	0.020	322.07	322.19	0.05
2	30	12.93	318.70	2.50	4.91	322.08	2.64	0.11	322.19	136.72	329.00	1.20 ²	2.33	330.20	5.54	0.48	330.68	0.013	8.487	330.73	330.83	0.15
3	30	12.33	329.10	1.62	3.37	330.73	3.66	0.21	330.93	24.50	329.30	1.38	2.78	330.68	4.44	0.31	330.99	0.013	0.053	331.05	331.26	0.27
4	30	12.20	329.40	0.73†	1.19	330.13	10.27	1.64	331.25	56.79	332.35	1.17 ²	2.25	333.52	5.43	0.46	333.98	0.013	2.726	334.00	334.19	0.22
5	30	11.94	332.45	1.55	3.19	334.00	3.74	0.22	334.21	101.19	333.50	1.15 ²	2.22	334.65	5.39	0.45	335.10	0.013	0.888	335.05	335.27	0.16
6	30	11.61	333.60	1.04‡	1.94	334.64	5.98	0.56	335.29	206.31	334.95	1.14 ²	2.18	336.09	5.33	0.44	336.53	0.013	1.244	336.48	336.72	0.19
7	24	9.93	335.47	1.00‡	1.57	336.47	6.33	0.62	337.06	63.78	336.10	1.12 ²	1.80	337.22	5.51	0.47	337.69	0.013	0.630	337.46	337.93	0.24
8	24	9.72	336.20	0.77‡	1.11	336.97	8.77	1.20	337.92	79.35	338.50	1.10 ²	1.78	339.60	5.46	0.46	340.06	0.013	2.142	340.06	340.30	0.23
9	15	0.34	339.75	0.54	0.50	340.29	0.68	0.01	340.30	24.49	339.90	0.39	0.32	340.29	1.06	0.02	340.30	0.013	0.009	340.30	340.31	0.00
10	24	9.17	338.60	1.47	2.48	340.08	3.70	0.21	340.29	99.76	340.00	1.07 ²	1.72	341.08	5.35	0.44	341.52	0.013	1.231	341.55	341.76	0.24
11	24	9.04	340.10	1.45	2.43	341.55	3.72	0.21	341.76	27.02	340.30	1.23	2.03	341.53	4.45	0.31	341.84	0.013	0.072	341.88	342.09	0.26
12	24	8.91	340.40	1.00‡	1.58	341.40	5.64	0.50	342.09	56.00	340.80	1.06	1.70	341.86	5.26	0.43	342.29	0.013	0.203	342.34	342.53	0.24
13	24	8.76	340.90	1.44	2.41	342.34	3.63	0.21	342.54	46.27	341.20	1.12	1.81	342.32	4.85	0.37	342.68	0.013	0.141	342.70	342.90	0.22
14	24	8.16	341.30	1.42	2.38	342.71	3.43	0.18	342.90	32.50	341.50	1.21	1.98	342.71	4.13	0.26	342.97	0.013	0.076	342.99	343.17	0.20
15	24	7.62	341.60	1.40	2.35	343.01	3.24	0.16	343.17	46.36	341.90	1.09	1.75	342.89	4.37	0.30	343.29	0.013	0.118	343.32	343.48	0.19
16	15	0.24	347.70	0.18‡	0.11	347.88	2.21	0.08	347.96	24.50	347.90	0.20 ²	0.12	348.10	1.94	0.06	348.15	0.013	0.197	348.11	348.17	0.01
17	24	7.03	342.00	0.90‡	1.37	342.90	5.13	0.41	343.48	91.00	342.55	0.94 ²	1.45	343.49	4.85	0.37	343.85	0.013	0.377	343.91	344.07	0.22
18	24	6.99	342.65	0.90‡	1.37	343.55	5.10	0.40	344.09	65.80	343.05	0.94 ²	1.44	343.99	4.84	0.36	344.35	0.013	0.268	344.38	344.55	0.19
19	24	6.00	343.15	1.26	2.09	344.42	2.87	0.13	344.55	24.50	343.35	1.03	1.64	344.38	3.67	0.21	344.59	0.013	0.047	344.66	344.78	0.19
20	24	5.70	343.45	0.80‡	1.16	344.25	4.89	0.37	344.79	84.99	344.00	0.85 ²	1.26	344.85	4.51	0.32	345.16	0.013	0.377	345.22	345.35	0.19
21	15	1.30	349.25	0.42‡	0.37	349.67	3.53	0.19	349.86	25.68	349.45	0.46 ²	0.40	349.91	3.21	0.16	350.07	0.013	0.204	349.96	350.12	0.06
22	15	0.75	349.70	0.23‡	0.16	349.93	4.74	0.35	350.16	18.40	350.50	0.35 ²	0.28	350.85	2.71	0.11	350.96	0.013	0.800	350.87	350.98	0.02

Notes: Return Period = 1-yr. ² Critical depth. † Supercritical.

Project File: Storm System 1000.sws

Energy Grade Line Calculations

Project Name: Storm System 1000

07-19-2021

Stormwater Studio 2021 v 3.0.0.25

Line No	Line Size (in)	Q (cfs)	Downstream						Upstream						n Value	EGL Elev (ft)	HGLa Elev (ft)	Energy Loss (ft)	Junction		
			Invert Elev (ft)	Depth (ft)	Area (sqft)	HGL Elev (ft)	Vel Head (ft)	EGL Elev (ft)	Invert Elev (ft)	Depth (ft)	Area (sqft)	HGL Elev (ft)	Vel Head (ft/s)	EGL Elev (ft)							
23	15	1.61	344.50	0.79	0.81	345.29	1.98	0.06	345.35	37.73	344.75	0.55	0.52	345.29	3.11	0.15	345.45	0.097	345.51	0.07	
24	15	1.35	344.85	0.61	0.59	345.45	2.29	0.08	345.53	137.25	345.70	0.47 ²	0.42	346.17	3.25	0.16	346.33	0.013	346.28	346.36	0.03
25	15	2.34	349.30	0.49†	0.44	349.79	5.32	0.44	350.15	137.56	351.30	0.61 ²	0.60	351.91	3.92	0.24	352.15	0.013	352.04	352.28	0.13
26	15	1.47	351.40	0.83	0.87	352.23	1.69	0.04	352.28	46.02	352.15	0.49 ²	0.44	352.63	3.34	0.17	352.80	0.013	352.85	352.89	0.09
27	15	0.72	352.25	0.62	0.60	352.87	1.19	0.02	352.89	24.55	352.45	0.41	0.35	352.86	2.05	0.07	352.93	0.013	352.92	352.94	0.01
28	15	0.15	337.40	0.14 ³	0.08	337.54	1.97	0.06	337.60	26.65	337.60	0.15	0.09	337.75	1.71	0.05	337.80	0.013	337.76	337.81	0.01
29	15	1.02	336.00	0.68	0.68	336.68	1.50	0.04	336.72	24.50	336.20	0.47	0.42	336.67	2.44	0.09	336.76	0.013	336.74	336.78	0.02

Notes: Return Period = 1-yr. ²Critical depth. ³ Normal depth. † Supercritical.

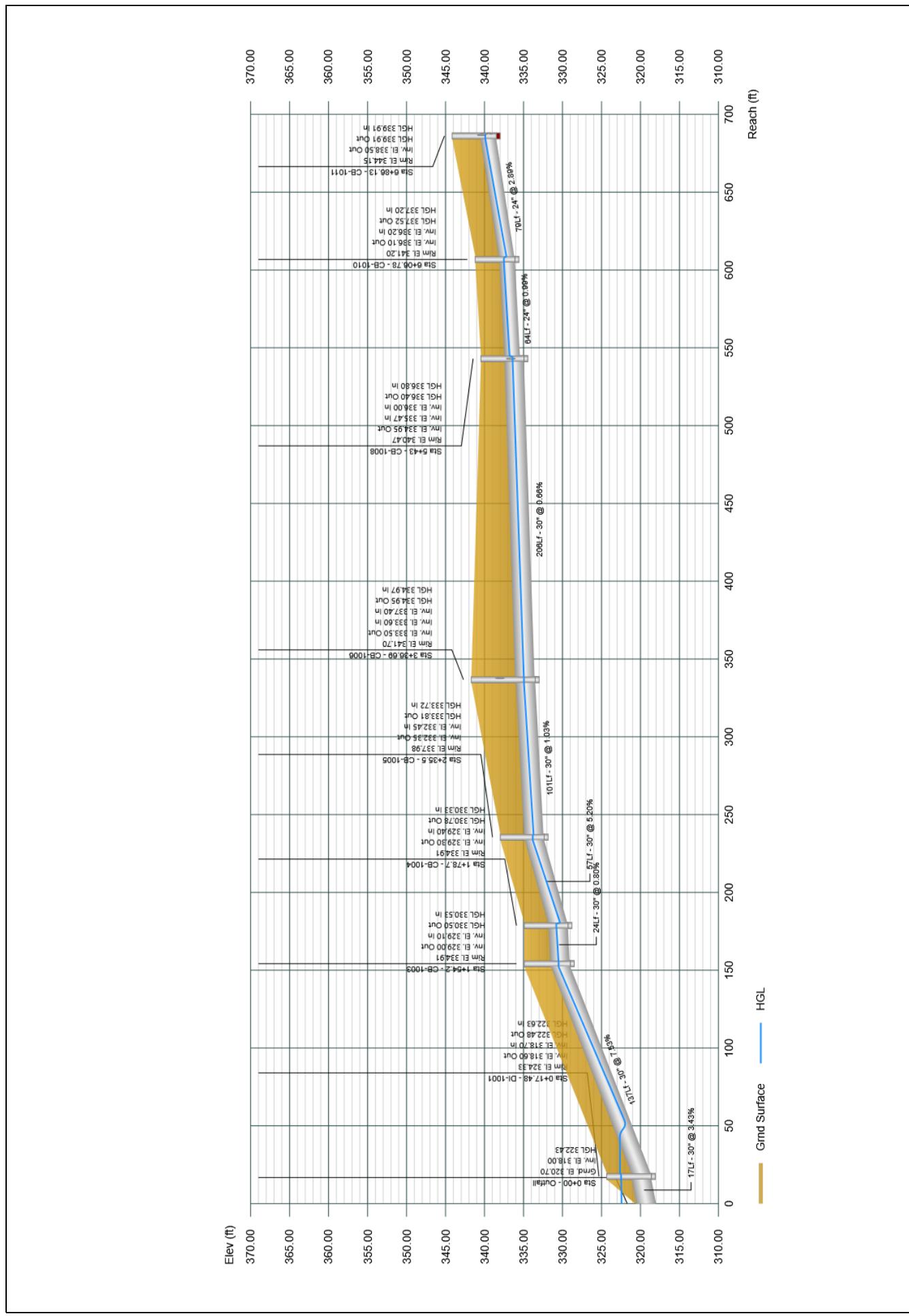
Project File: Storm System 1000.sws

Profile View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 1000

02-21-2022

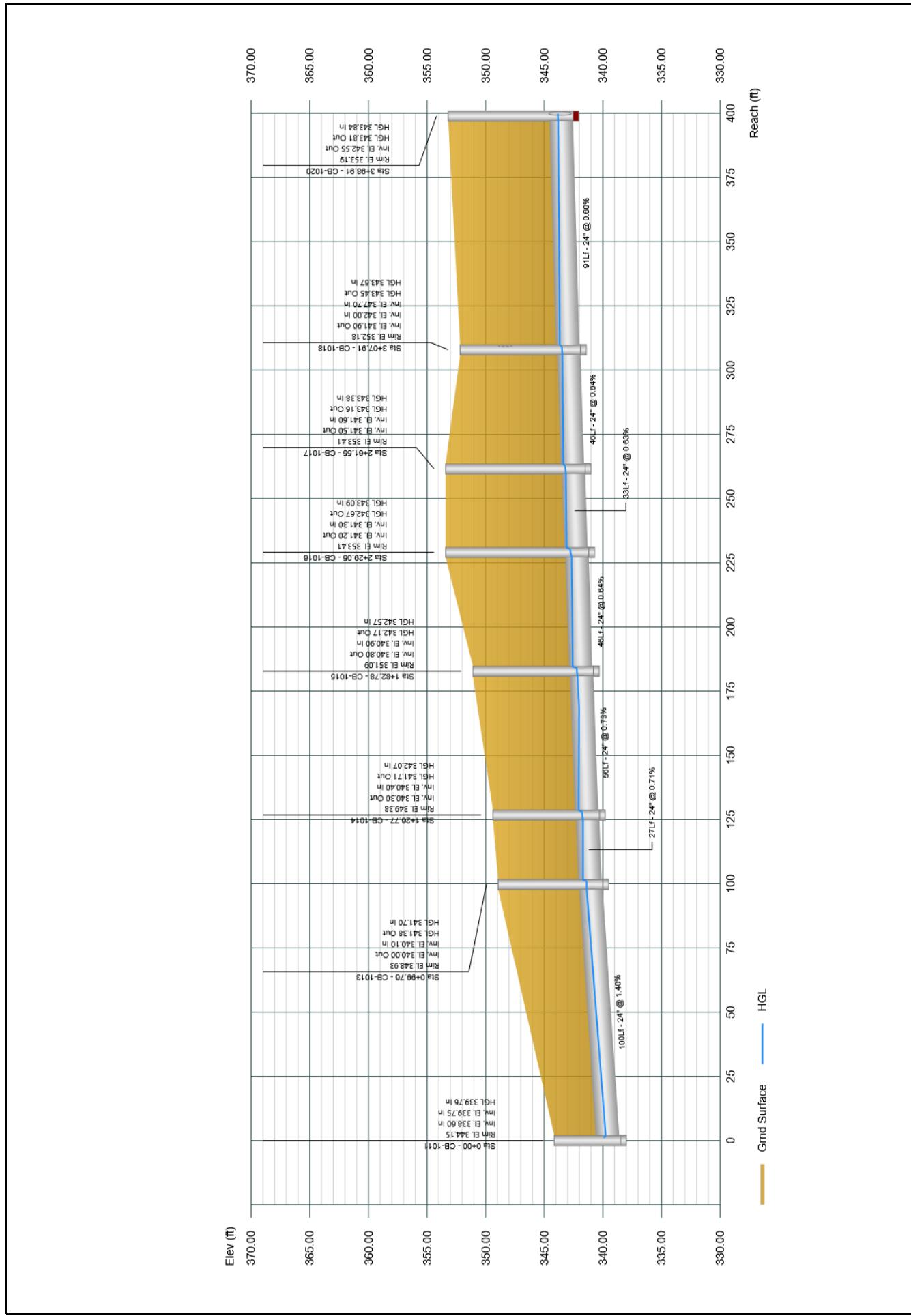


Profile View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 1000

02-21-2022



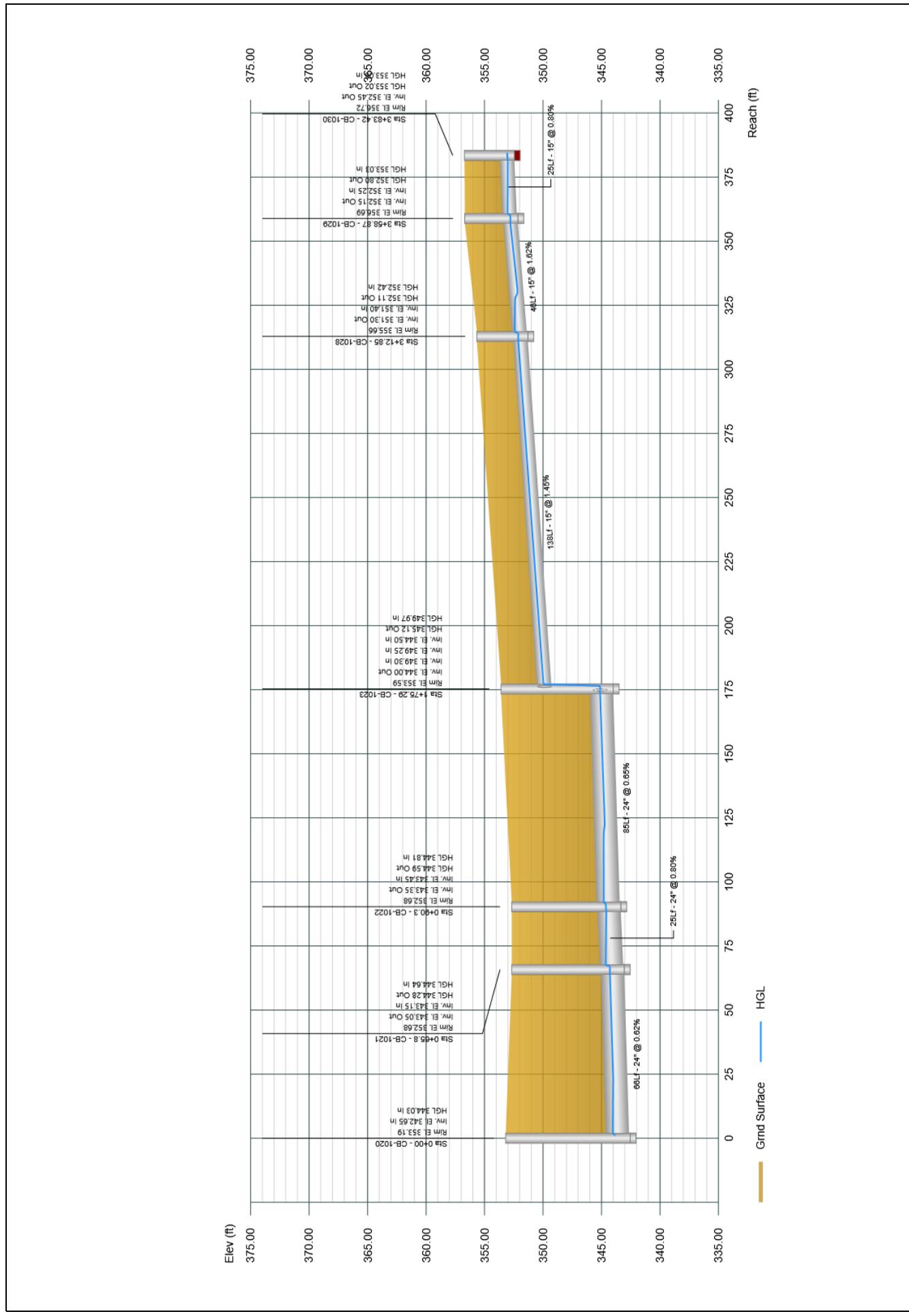
Project File: Storm System 1000.sws

Profile View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 1000

02-21-2022

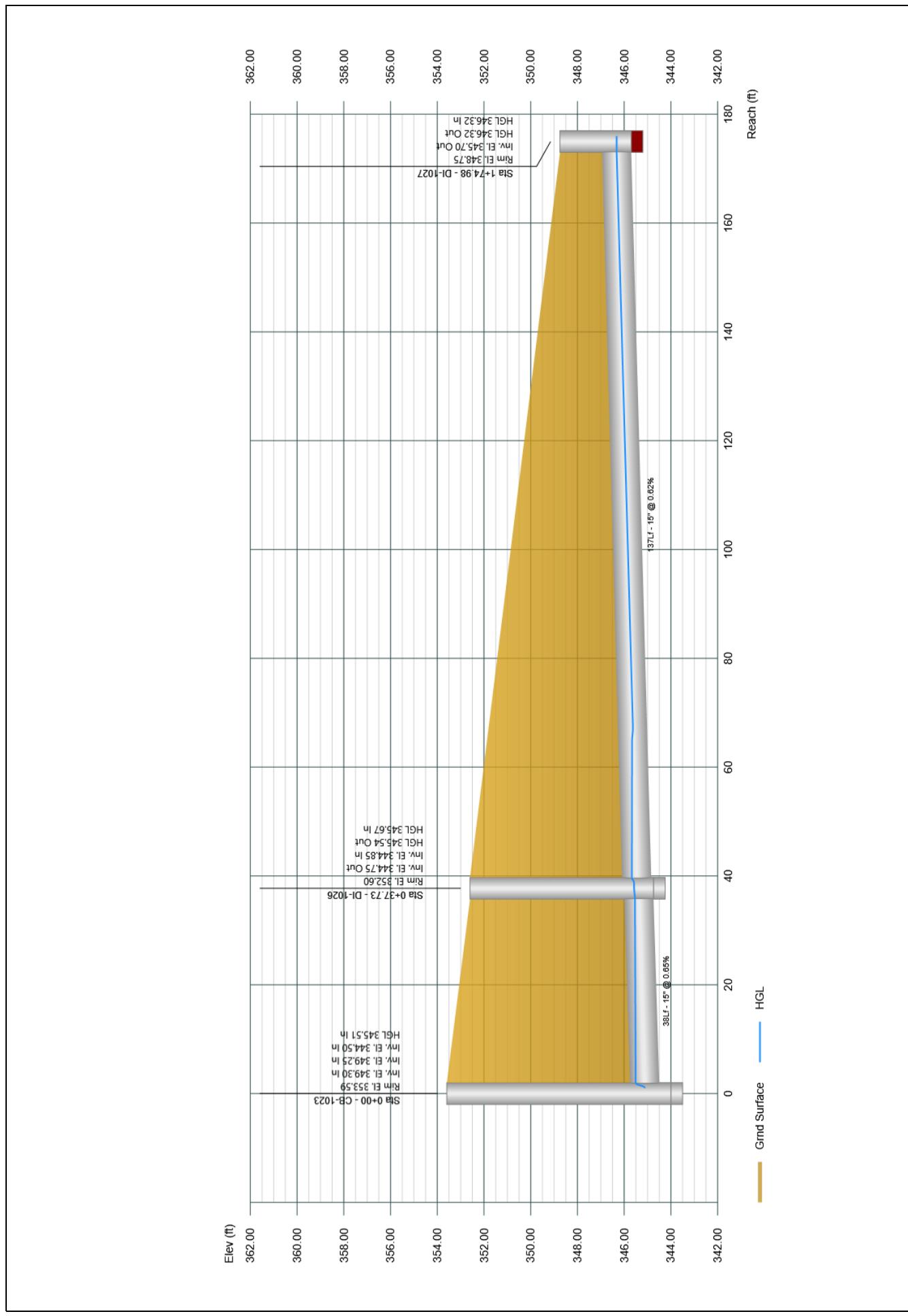


Profile View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 1000

02-21-2022



Project File: Storm System 1000.sws

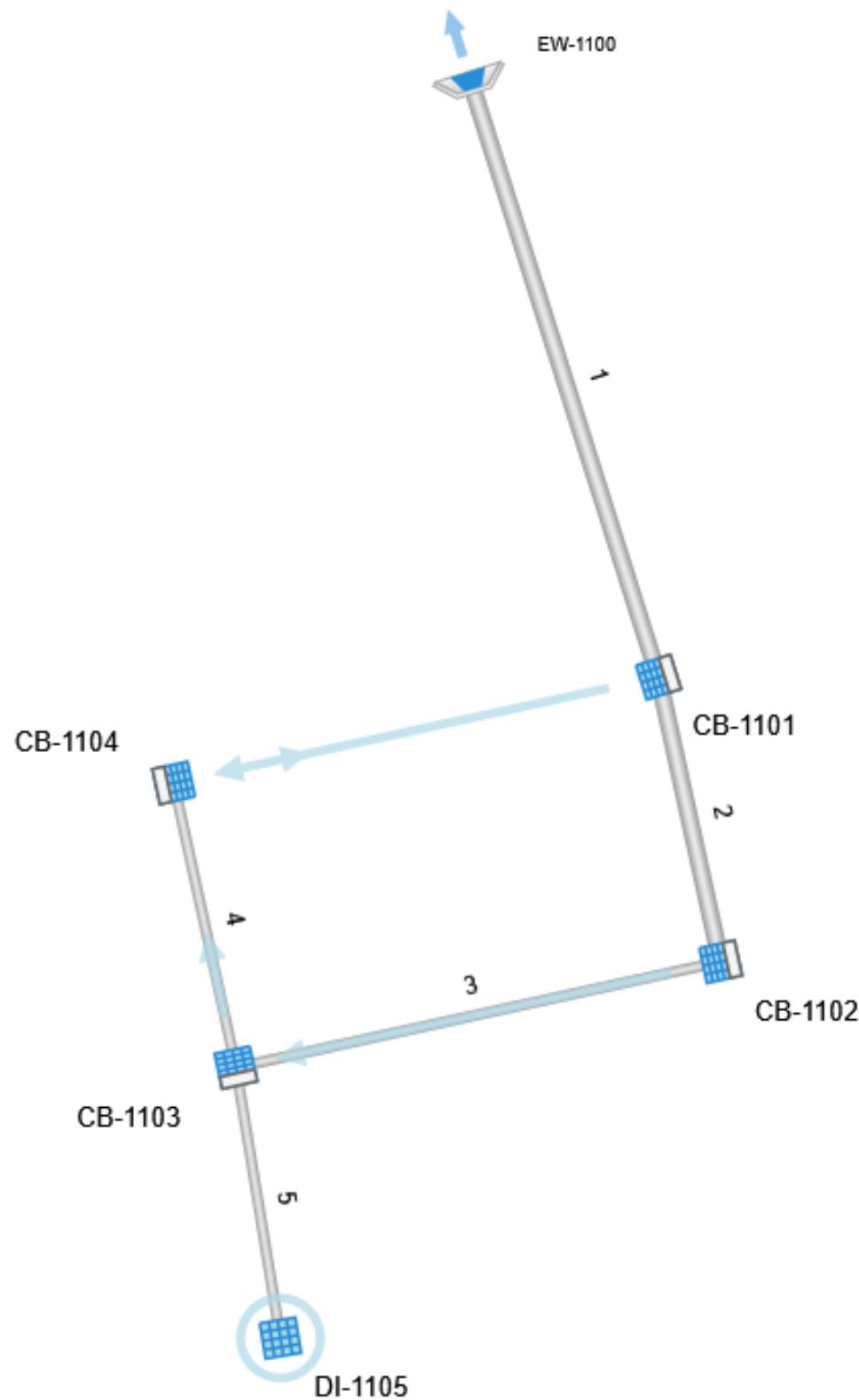
SYSTEM 1100 – REPORTS AND PROFILES

Plan View

Stormwater Studio 2021 v 3.0.0.25

Project Name: Storm System 1100

07-19-2021



Storm Sewer Tabulation

Project Name: Storm System 1100

Stormwater Studio 2022 v 3.0.0.29

02-21-2022

Line ID	Length (ft)	Drng Area		C x A		Tc		Intensity	Total Q	Capacity	Velocity	Line		Invert Elev		HGL Elev		Surface Elev		Line No	
		Incr (ac)	Total (ac)	Incr (C)	Total (C)	Inlet (min)	Syst (min)					Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)		
1100-1101	73.82	0.070	1.150	0.90	0.06	0.81	5.0	5.52	7.02	5.66	44.83	2.04	24	3.93	312.90	310.00	314.37	314.35	323.93	312.33	1
1101-1102	32.50	0.170	1.080	0.80	0.14	0.74	5.0	5.41	7.05	5.24	19.84	2.51	24	0.77	313.25	313.00	314.40	314.41	323.93	323.93	2
1102-1103	55.29	0.040	0.910	0.85	0.03	0.61	5.0	5.22	7.11	4.32	5.22	4.49	15	0.65	313.72	313.35	314.57	314.35	322.17	323.93	3
1103-1104	32.50	0.040	0.040	0.85	0.03	0.03	5.0	5.00	7.19	0.24	6.26	2.16	15	0.94	317.90	317.60	318.10	317.77	322.17	322.17	4
1103-1105	30.60	0.830	0.830	0.65	0.54	0.54	5.0	5.00	7.19	3.88	5.00	3.75	15	0.60	314.00	313.82	314.93	314.86	317.05	322.17	5

Notes: IDF File = The Point.IDF, Return Period = 10-yr.

Project File: Storm System 1100.sws

Energy Grade Line Calculations

Project Name: Storm System 1000

Stormwater Studio 2022 v 3.0.0.29

02-21-2022

Line No	Line Size (in)	Q (cfs)	Downstream						Upstream						Pipe			Junction				
			Invert Elev (ft)	Depth (ft)	Area (sqft)	HGL Elev (ft)	Vel Head (ft)	EGL Elev (ft)	Invert Elev (ft)	Depth (ft)	Area (sqft)	HGL Elev (ft)	Vel Head (ft/s)	EGL Elev (ft)	n Value	HGLa Elev (ft)	EGLa Elev (ft)	Energy Loss (ft)				
1	30	21.42	318.00	2.50	4.91	322.43	4.37	0.30	322.73	17.48	318.60	2.50	4.91	322.48	4.36	0.30	322.77	0.013	0.048	322.49	322.79	0.01
2	30	20.24	318.70	2.50	4.91	322.63	4.12	0.26	322.89	136.72	329.00	1.50 ²	3.08	330.50	6.56	0.67	331.17	0.013	8.282	330.50	331.17	0.00
3	30	19.34	329.10	1.42†	2.89	330.53	6.70	0.70	331.29	24.50	329.30	1.48	3.02	330.78	6.41	0.64	331.42	0.013	0.128	330.81	331.45	0.03
4	30	19.19	329.40	0.93‡	1.66	330.33	11.58	2.08	331.56	56.79	332.35	1.46 ²	2.99	333.81	6.42	0.64	334.46	0.013	2.895	333.81	334.46	0.00
5	30	18.92	332.45	1.27†	2.50	333.72	7.57	0.89	334.57	101.19	333.50	1.45 ²	2.96	334.95	6.39	0.63	335.59	0.013	1.017	334.95	335.59	0.00
6	30	18.78	333.60	1.37†	2.76	334.97	6.79	0.72	335.70	206.31	334.95	1.45 ²	2.95	336.40	6.37	0.63	337.03	0.013	1.331	336.40	337.03	0.00
7	24	16.15	335.47	1.33†	2.21	336.80	7.29	0.83	337.60	63.78	336.10	1.42 ²	2.39	337.52	6.75	0.71	338.23	0.013	0.630	337.52	338.23	0.00
8	24	15.89	336.20	1.00†	1.58	337.20	10.06	1.57	338.38	79.35	338.50	1.41 ²	2.37	339.91	6.70	0.70	340.61	0.013	2.223	339.91	340.61	0.00
9	24	15.11	338.60	1.15†	1.88	339.76	8.05	1.01	340.74	99.76	340.00	1.38 ²	2.31	341.38	6.55	0.67	342.05	0.013	1.307	341.38	342.05	0.00
10	24	14.93	340.10	1.60	2.69	341.70	5.55	0.48	342.18	27.02	340.30	1.41	2.37	341.71	6.31	0.62	342.32	0.013	0.144	341.75	342.37	0.05
11	24	14.81	340.40	1.67	2.80	342.07	5.28	0.43	342.50	56.00	340.80	1.37	2.29	342.17	6.47	0.65	342.82	0.013	0.320	342.22	342.87	0.05
12	24	14.63	340.90	1.67	2.80	342.57	5.22	0.42	343.00	46.27	341.20	1.47	2.47	342.67	5.92	0.54	343.21	0.013	0.216	342.76	343.31	0.10
13	24	13.68	341.30	1.79	2.97	343.09	4.61	0.33	343.42	32.50	341.50	1.65	2.78	343.16	4.93	0.38	343.53	0.013	0.111	343.20	343.58	0.04
14	24	12.85	341.60	1.78	2.95	343.38	4.35	0.29	343.68	46.36	341.90	1.55	2.61	343.45	4.93	0.38	343.83	0.013	0.149	343.49	343.86	0.04
15	24	11.97	342.00	1.67	2.80	343.67	4.27	0.28	343.96	91.00	342.55	1.26	2.09	343.81	5.72	0.51	344.32	0.013	0.365	343.84	344.35	0.03
16	24	12.01	342.65	1.38	2.32	344.03	5.17	0.42	344.45	65.80	343.05	1.23 ²	2.02	344.28	5.94	0.55	344.83	0.013	0.380	344.28	344.83	0.00
17	24	10.34	343.15	1.49	2.51	344.64	4.12	0.26	344.91	24.50	343.35	1.24	2.05	344.59	5.04	0.40	344.99	0.013	0.082	344.64	345.03	0.04
18	24	9.92	343.45	1.36	2.28	344.81	4.34	0.29	345.11	84.99	344.00	1.12 ²	1.80	345.12	5.51	0.47	345.59	0.013	0.479	345.12	345.59	0.00
19	15	4.16	349.30	0.67†	0.67	349.97	6.23	0.60	350.49	137.56	351.30	0.82 ²	0.85	352.11	4.90	0.37	352.49	0.013	1.996	352.11	352.49	0.00
20	15	2.63	351.40	1.02	1.08	352.42	2.44	0.09	352.52	46.02	352.15	0.65 ²	0.64	352.80	4.08	0.26	353.05	0.013	0.538	352.80	353.05	0.00
21	15	1.29	352.25	0.77	0.80	353.03	1.62	0.04	353.07	24.55	352.45	0.57	0.54	353.02	2.40	0.09	353.11	0.013	0.038	353.06	353.15	0.04
22	15	2.33	349.25	0.58†	0.56	349.83	4.17	0.27	350.09	25.68	349.45	0.61 ²	0.60	350.06	3.91	0.24	350.30	0.013	0.204	350.06	350.30	0.00

Notes: Return Period = 10-yr. ² Critical depth. † Supercritical.

Project File: Storm System 1000.sws

Energy Grade Line Calculations

Project Name: Storm System 1000

Stormwater Studio 2022 v 3.0.0.29

02-21-2022

Line No	Line Size (in)	Q (cfs)	Downstream						Upstream						n Value	EGL Elev (ft)	HGLa Elev (ft)	Energy Loss (ft)	Junction			
			Invert Elev (ft)	Depth (ft)	Area (sqft)	HGL Elev (ft)	Vel Head (ft)	EGL Elev (ft)	Invert Elev (ft)	Depth (ft)	Area (sqft)	HGL Elev (ft)	Vel Head (ft/s)	EGL Elev (ft)								
23	15	1.35	349.70	0.32‡	0.25	350.02	5.47	0.47	350.33	18.40	350.50	0.47 ²	0.42	350.97	3.25	0.16	351.13	0.013	0.799	350.97	351.13	0.00
24	15	0.43	347.70	0.24‡	0.16	347.94	2.61	0.11	348.05	24.50	347.90	0.26 ²	0.19	348.16	2.29	0.08	348.24	0.013	0.197	348.16	348.24	0.00
25	15	2.82	344.50	1.01	1.06	345.51	2.65	0.11	345.62	37.73	344.75	0.80	0.82	345.54	3.43	0.18	345.72	0.013	0.103	345.58	345.76	0.04
26	15	2.43	344.85	0.83	0.86	345.67	2.82	0.12	345.80	137.25	345.70	0.62 ²	0.61	346.32	3.97	0.24	346.57	0.013	0.771	346.32	346.57	0.00
27	15	0.62	339.75	0.85	0.89	340.60	0.70	0.01	340.61	24.49	339.90	0.70	0.71	340.60	0.87	0.01	340.61	0.013	0.005	340.61	340.62	0.01
28	15	0.27	337.40	0.19‡	0.12	337.59	2.26	0.08	337.67	26.65	337.60	0.21 ²	0.13	337.81	2.01	0.06	337.87	0.013	0.200	337.81	337.87	0.00
29	15	1.83	336.00	1.00	1.05	337.00	1.75	0.05	337.05	24.50	336.20	0.80	0.83	337.00	2.21	0.08	337.07	0.013	0.029	337.04	337.12	0.04

Notes: Return Period = 10-yr. ² Critical depth. ‡ Supercritical.

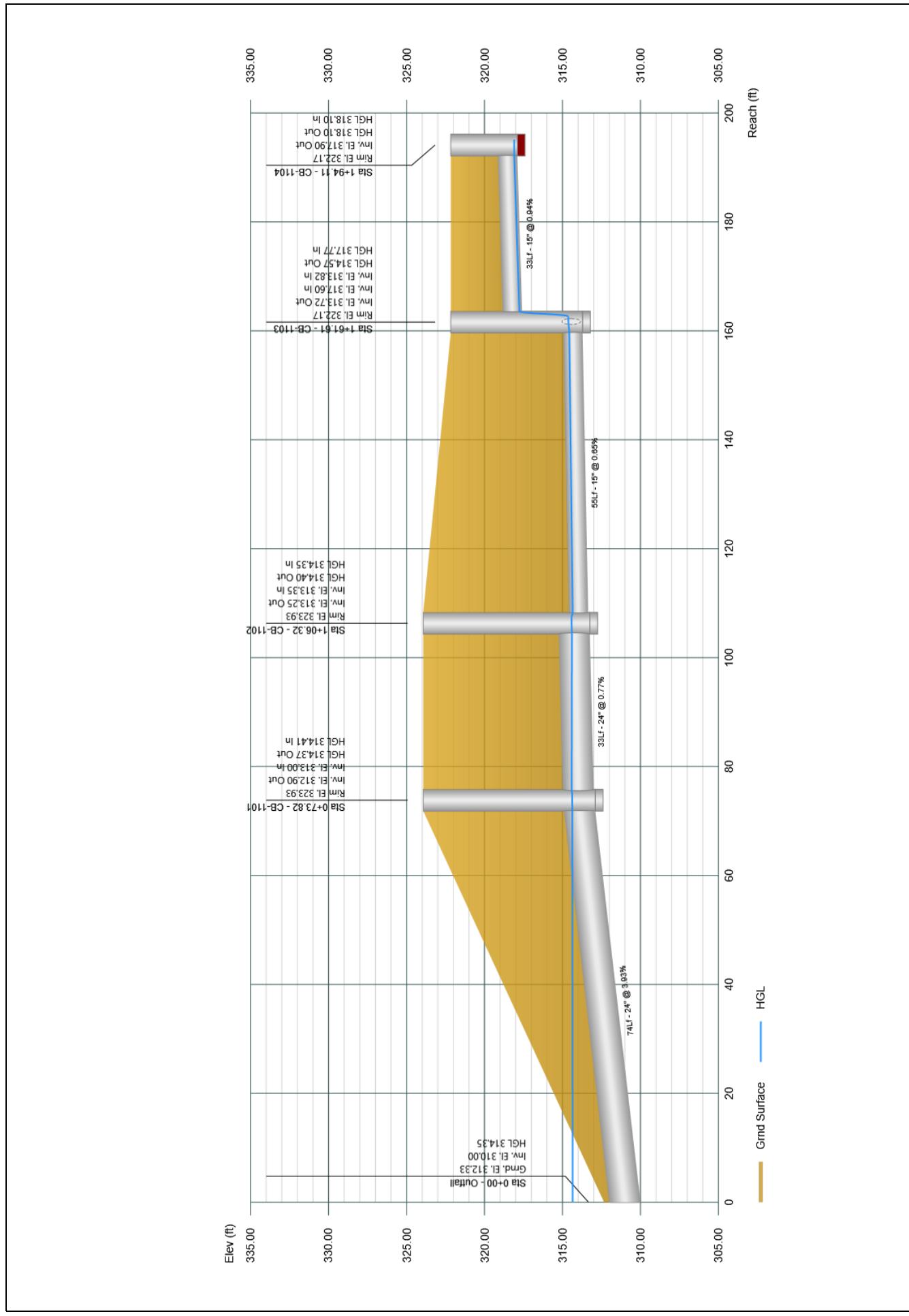
Project File: Storm System 1000.sws

Profile View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 1100

02-21-2022

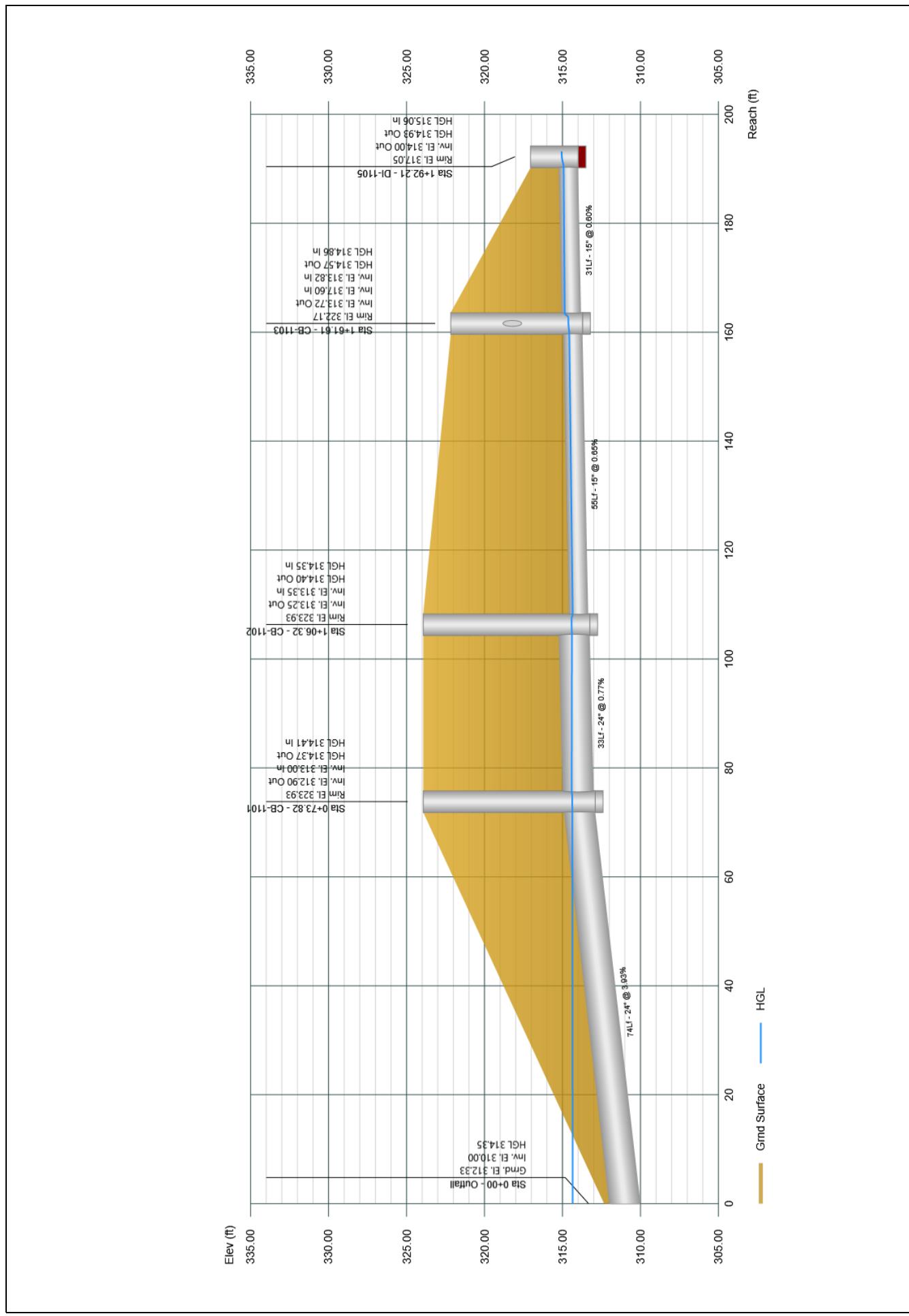


Profile View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 1100

02-21-2022



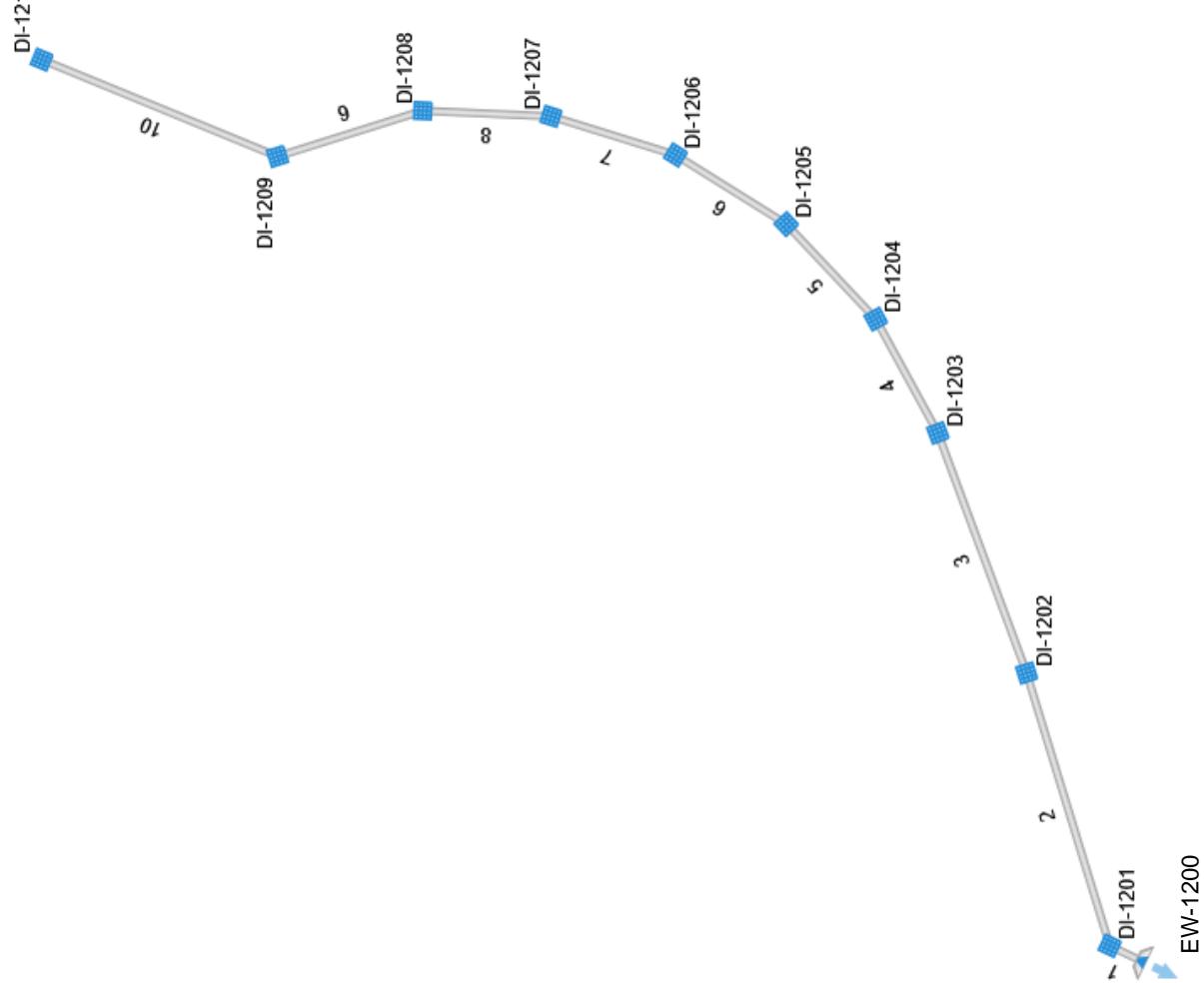
SYSTEM 1200 – REPORTS AND PROFILES

Plan View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 1200

02-21-2022



Project File: Storm System 1200.sws

Storm Sewer Tabulation

Project Name: Storm System 1200

Stormwater Studio 2022 v 3.0.0.29

02-21-2022

Line ID	Length (ft)	Drng Area		C x A		Tc		Intensity	Total Q	Capacity	Velocity	Line		Invert Elev		HGL Elev		Surface Elev		Line No	
		Incr (ac)	Total (ac)	Incr (C)	Total (C)	Inlet (min)	Syst (min)					Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)		
1200-1201	18.02	0.410	3.170	0.65	0.27	2.06	5.0	7.39	6.48	13.34	122.11	2.72	30	8.86	318.00	322.45	322.43	333.43	320.88	1	
1201-1202	170.82	0.630	2.760	0.65	0.41	1.79	5.0	7.03	6.57	11.79	26.56	6.80	24	1.38	329.05	326.70	330.27	327.68	335.00	333.43	2
1202-1203	153.35	0.170	2.130	0.65	0.11	1.38	5.0	6.58	6.70	9.27	18.27	4.59	24	0.65	330.20	329.20	331.28	330.65	333.35	335.00	3
1203-1204	77.66	0.170	1.960	0.65	0.11	1.27	5.0	6.34	6.77	8.62	8.39	5.40	18	0.64	331.20	330.70	332.47	331.97	334.88	333.35	4
1204-1205	78.22	0.170	1.790	0.65	0.11	1.16	5.0	6.12	6.83	7.95	9.19	4.88	18	0.77	331.90	331.30	333.10	332.77	335.58	334.88	5
1205-1206	78.23	0.170	1.620	0.65	0.11	1.05	5.0	5.95	6.88	7.25	13.27	4.93	18	1.60	333.25	332.00	334.28	333.39	336.73	335.58	6
1206-1207	78.23	0.170	1.450	0.65	0.11	0.94	5.0	5.77	6.94	6.54	13.28	4.70	18	1.60	334.55	333.30	335.53	334.59	338.30	336.73	7
1207-1208	76.93	0.050	1.280	0.65	0.03	0.83	5.0	5.61	6.99	5.81	15.62	6.25	18	2.21	336.35	334.65	337.27	335.34	339.96	338.30	8
1208-1209	91.28	0.730	1.230	0.65	0.47	0.80	5.0	5.37	7.07	5.65	6.92	5.89	15	1.15	337.75	336.70	338.70	337.58	340.75	339.96	9
1209-1210	152.82	0.500	0.500	0.65	0.33	0.33	5.0	5.00	7.19	2.34	10.51	2.92	15	2.65	342.00	337.95	342.61	339.16	349.75	340.75	10

Notes: IDF File = The Point.IDF, Return Period = 10-yr.

Project File: Storm System 1200.sws

Energy Grade Line Calculations

Project Name: Storm System 1200

Stormwater Studio 2022 v 3.0.0.29

02-21-2022

Line No	Line Size (in)	Q (cfs)	Downstream						Upstream						n Value	EGL Elev (ft)	HGLa Elev (ft)	Energy Loss (ft)	Junction			
			Invert Elev (ft)	Depth (ft)	Area (sqft)	HGL Elev (ft)	Vel Head (ft)	EGL Elev (ft)	Invert Elev (ft)	Depth (ft)	Area (sqft)	HGL Elev (ft)	Vel Head (ft)	EGL Elev (ft)								
1	30	13.34	318.00	2.50	4.91	322.43	2.72	0.11	322.55	18.02	319.60	2.50	4.91	322.45	2.72	0.11	322.56	0.019	322.47	322.58	0.02	
2	24	11.79	326.70	0.98‡	1.53	327.68	7.71	0.92	328.46	170.82	329.05	1.22 ²	2.00	330.27	5.90	0.54	330.81	0.013	2.355	330.27	330.81	0.00
3	24	9.27	329.20	1.45	2.44	330.65	3.81	0.23	330.88	153.35	330.20	1.08 ²	1.73	331.28	5.37	0.45	331.73	0.013	0.853	331.28	331.73	0.00
4	18	8.62	330.70	1.27 ³	1.60	331.97	5.40	0.45	332.43	77.66	331.20	1.27	1.60	332.47	5.40	0.45	332.92	0.013	0.496	332.51	332.97	0.04
5	18	7.95	331.30	1.47	1.76	332.77	4.52	0.32	333.09	78.22	331.90	1.20	1.52	333.10	5.24	0.43	333.53	0.013	0.436	333.15	333.57	0.05
6	18	7.25	332.00	1.39	1.71	333.39	4.23	0.28	333.67	78.23	333.25	1.03 ²	1.29	334.28	5.62	0.49	334.77	0.013	1.095	334.28	334.77	0.00
7	18	6.54	333.30	1.29	1.62	334.59	4.03	0.25	334.85	78.23	334.55	0.98 ²	1.22	335.53	5.37	0.45	335.97	0.013	1.127	335.53	335.97	0.00
8	18	5.81	334.65	0.69‡	0.79	335.34	7.38	0.85	336.04	76.93	336.35	0.92 ²	1.14	337.27	5.11	0.41	337.68	0.013	1.636	337.27	337.68	0.00
9	15	5.65	336.70	0.88‡	0.92	337.58	6.14	0.59	338.15	91.28	337.75	0.95 ²	1.00	338.70	5.64	0.49	339.19	0.013	1.048	338.70	339.19	0.00
10	15	2.34	337.95	1.21	1.21	339.16	1.92	0.06	339.21	152.82	342.00	0.61 ²	0.60	342.61	3.91	0.24	342.85	0.013	3.635	342.61	342.85	0.00

Notes: Return Period = 10-yr. ² Critical depth. ³ Normal depth. ‡ Supercritical.

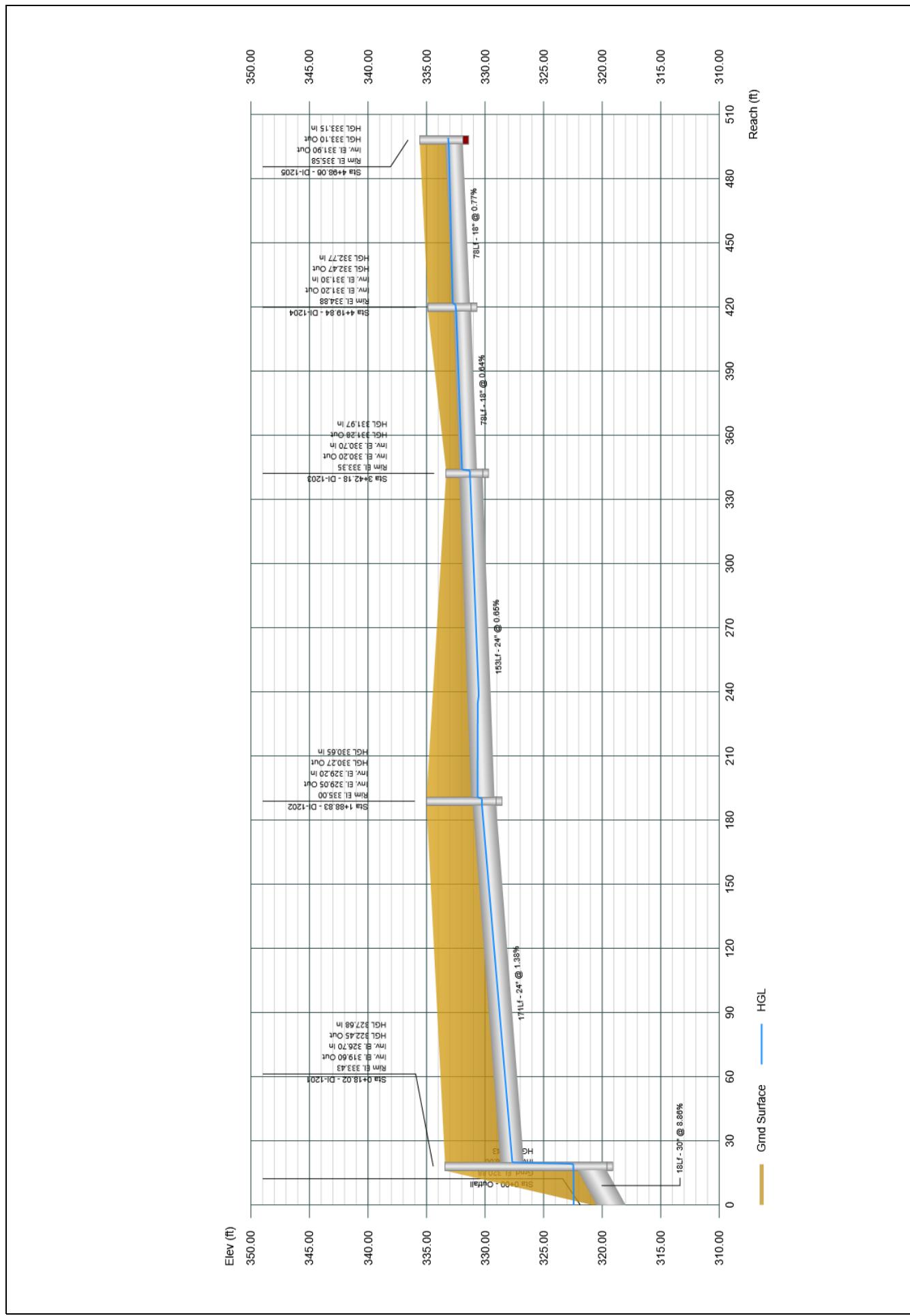
Project File: Storm System 1200.sws

Profile View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 1200

02-21-2022



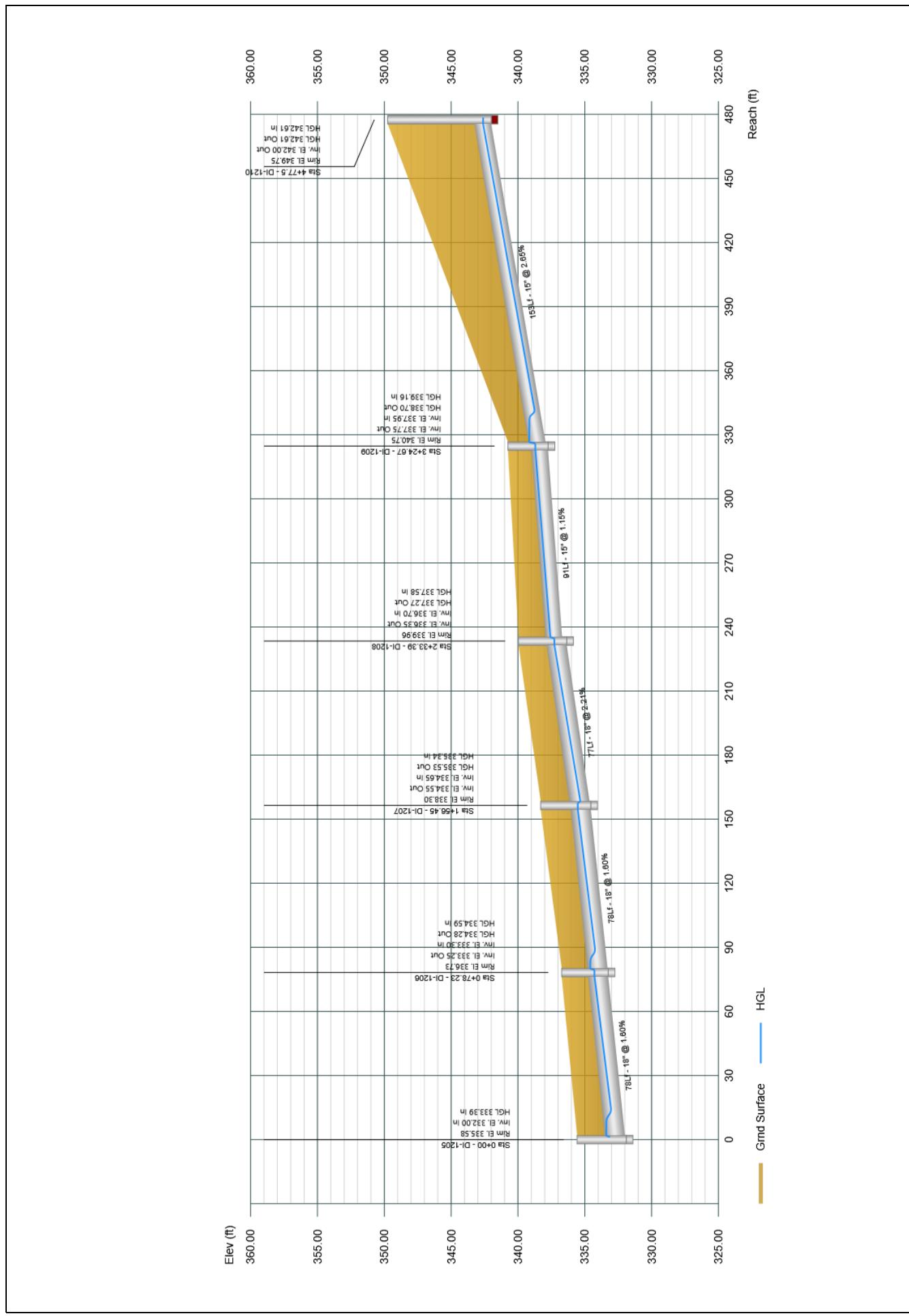
Project File: Storm System 1200.sws

Profile View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 1200

02-21-2022



Project File: Storm System 1200.sws

SYSTEM 1300 – REPORTS AND PROFILES

Plan View

Stormwater Studio 2021 v 3.0.0.25

Project Name: Storm System 1300

07-20-2021



Project File: Storm System 1300.sws

Storm Sewer Tabulation

Stormwater Studio 2021 v 3.0.0.25

Project Name: Storm System 1300

07-20-2021

Line ID	Length (ft)	Drng Area		C x A		Tc		Intensity (in/hr)	Total Q (cfs)	Capacity (cfs)	Velocity (ft/s)	Size (in)	Slope (%)	Line		Invert Elev		HGL Elev		Surface Elev		Line No
		Incr (ac)	Total (ac)	Incr (C)	Total (C)	Inlet (min)	Syst (min)							Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
1300-1301	57.44	0.440	0.440	0.70	0.31	0.31	5.0	5.00	7.19	2.21	20.17	2.82	15	9.76	317.10	311.50	317.70	314.55	329.20	313.00	1	

Notes: IDF File = The Point.IDF, Return Period = 10-yr.

Project File: Storm System 1300.sws

Energy Grade Line Calculations

Stormwater Studio 2021 v 3.0.0.25

Project Name: Storm System 1300

07-20-2021

Line No	Line Size (in)	Q (cfs)	Downstream						Upstream						n Value	EGL Elev (ft)	HGLa Elev (ft)	Energy Loss (ft)	Junction			
			Invert Elev (ft)	Depth (ft)	Area (sqft)	HGL Elev (ft)	Vel (ft/s)	Vel Head (ft)	EGL Elev (ft)	Depth (ft)	Area (sqft)	HGL Elev (ft)	Vel (ft/s)	Vel Head (ft)								
1	15	2.21	311.50	1.25	1.23	314.55	1.80	0.05	314.60	57.44	317.10	0.60 ²	0.58	317.70	3.84	0.23	317.93	0.013	3.329	317.92	317.97	0.04

Notes: Return Period = 10-yr. ² Critical depth.

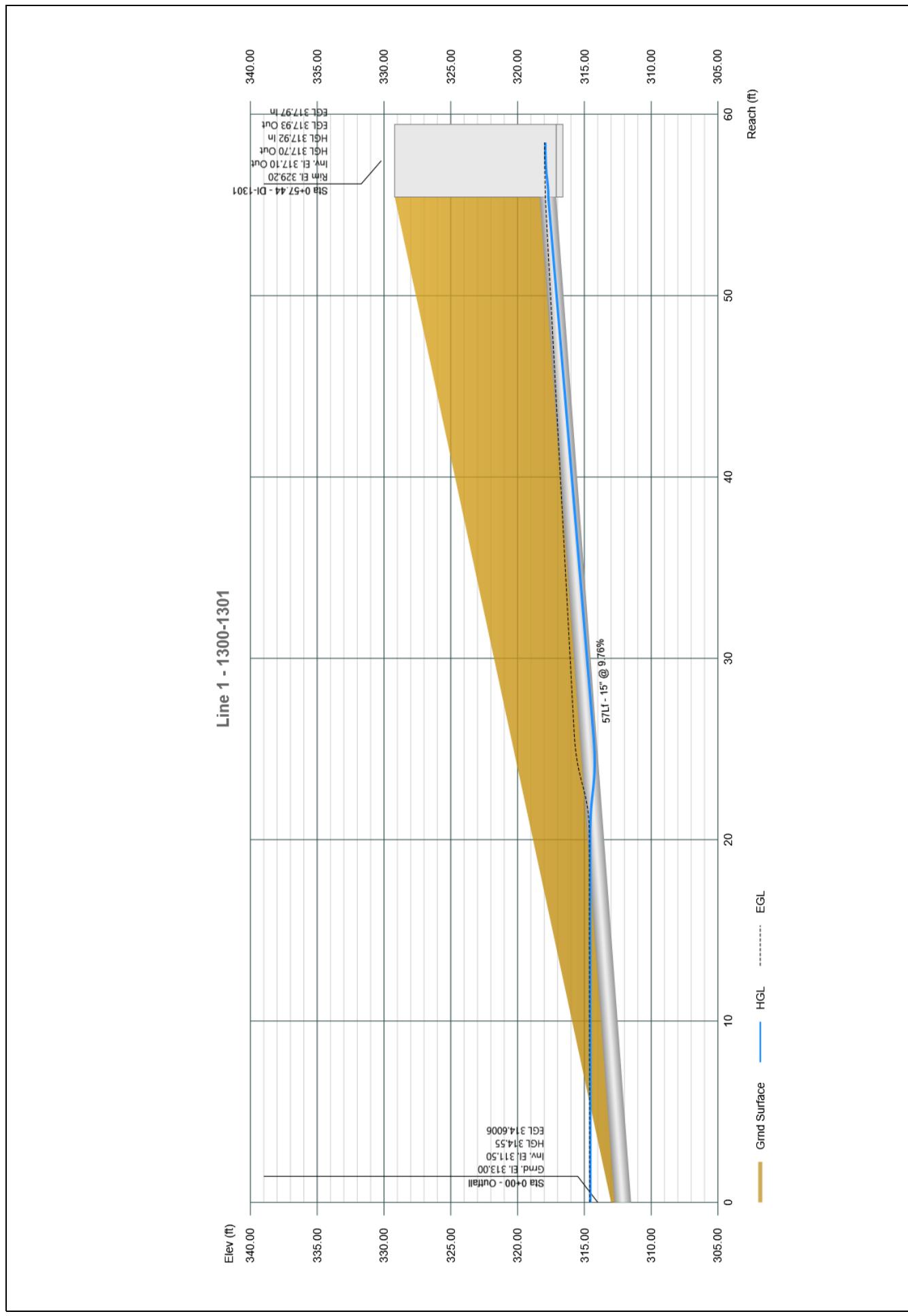
Project File: Storm System 1300.sws

Profile View

Stormwater Studio 2021 v 3.0.0.25

Project Name: Storm System 1300

07-20-2021



Project File: Storm System 1300.sws

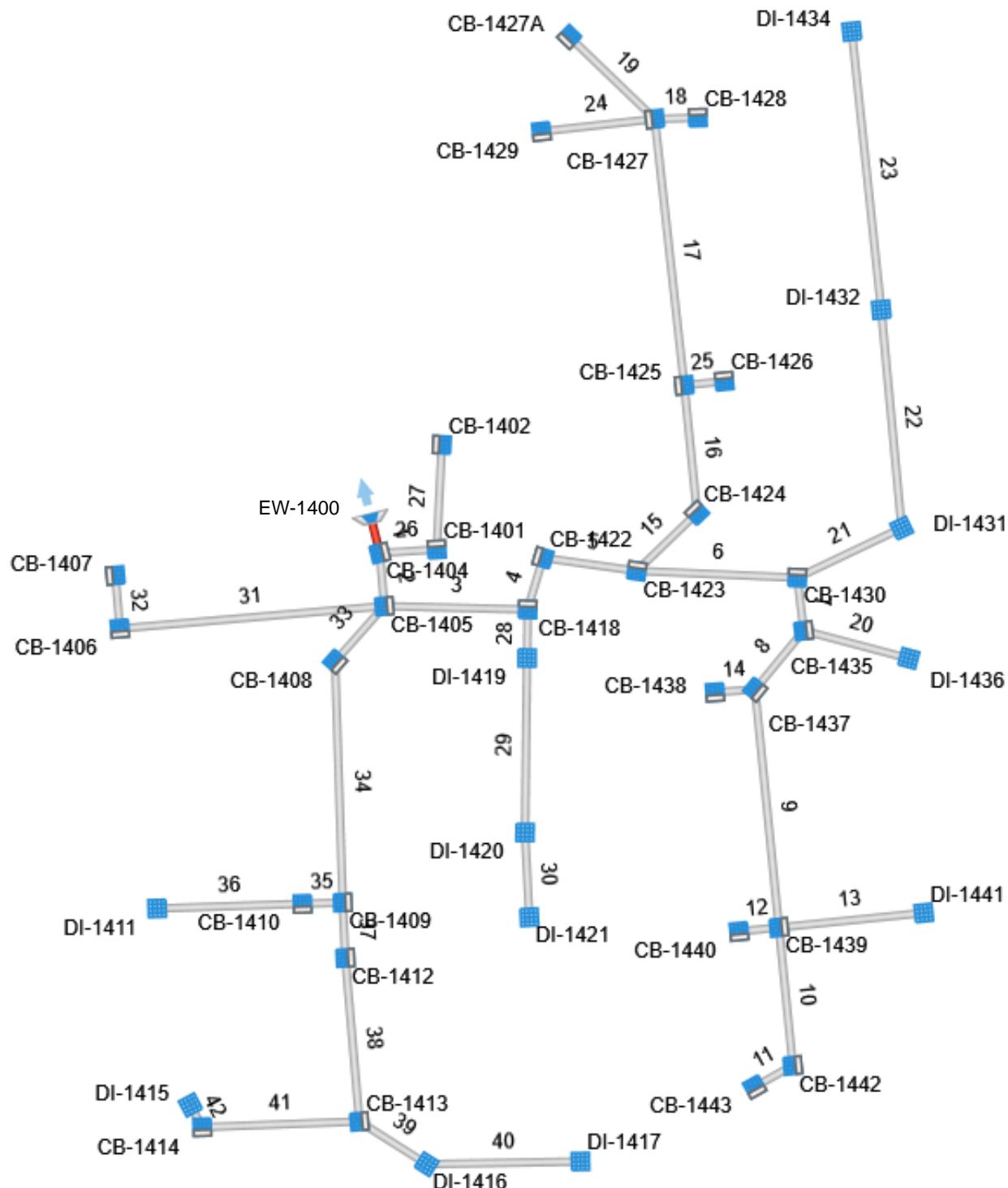
SYSTEM 1400 – REPORTS AND PROFILES

Plan View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 1400

02-25-2022



Storm Sewer Tabulation

Stormwater Studio 2022 v 3.0.0.29
02-25-2022

Project Name: Storm System 1400

Line ID	Length (ft)	Drng Area		C x A		Tc		Intensity	Capacity (cfs)	Velocity (ft/s)	Line		Invert Elev		HGL Elev		Surface Elev		Line No	
		Incr (ac)	Total (ac)	Incr (C)	Total (C)	Inlet (min)	Syst (min)				Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)		
1400-1404	18.69	0.020	9.990	0.85	0.02	6.21	5.0	7.22	6.52	40.51	270.70	2.08	60	1.08	375.35	375.15	380.12	385.87	380.73	1
1404-1405	32.50	0.070	9.750	0.85	0.06	6.01	5.0	7.15	6.54	39.28	201.76	2.08	60	0.60	375.65	375.45	380.16	385.87	385.87	2
1405-1418	87.46	0.230	5.840	0.75	0.17	3.90	5.0	6.95	6.59	25.74	34.10	7.34	30	0.69	379.00	378.40	380.70	386.91	385.87	3
1418-1422	32.88	0.070	5.000	0.70	0.05	3.34	5.0	6.87	6.62	22.06	31.77	6.80	30	0.60	379.70	379.50	381.28	386.96	386.91	4
1422-1423	57.73	0.030	4.930	0.90	0.03	3.29	5.0	6.74	6.65	21.87	31.77	6.77	30	0.60	380.25	379.90	381.82	381.46	387.62	5
1423-1430	98.01	0.100	3.660	0.85	0.09	2.32	5.0	6.51	6.72	15.55	38.15	4.74	30	0.87	381.20	380.35	382.51	382.43	388.77	6
1430-1435	32.51	0.100	2.500	0.85	0.09	1.59	5.0	6.21	6.81	10.85	25.25	6.12	24	1.25	382.50	382.10	383.67	383.14	388.78	7
1435-1437	46.53	0.220	2.030	0.80	0.18	1.32	5.0	6.08	6.84	9.06	9.73	6.23	18	0.86	383.35	382.95	384.50	384.10	388.46	8
1437-1439	145.81	0.120	1.590	0.80	0.10	0.97	5.0	5.62	6.99	6.79	8.23	5.20	18	0.61	385.10	384.20	386.14	385.24	390.04	9
1439-1442	84.60	0.070	0.130	0.80	0.06	0.10	5.0	5.20	7.12	0.74	6.07	2.98	15	0.88	386.55	385.80	386.89	386.10	390.04	10
1442-1443	26.70	0.060	0.060	0.80	0.05	0.05	5.0	5.00	7.19	0.34	4.84	2.23	15	0.56	386.80	386.65	387.04	386.87	391.07	11
1439-1440	24.50	0.140	0.140	0.80	0.11	0.11	5.0	5.00	7.19	0.80	5.00	0.88	15	0.60	385.80	385.65	386.61	386.60	390.04	12
1439-1441	88.76	1.200	1.200	0.55	0.66	0.66	5.0	5.00	7.19	4.74	5.10	4.69	15	0.62	385.95	385.40	386.90	386.37	388.30	13
1437-1438	24.51	0.220	0.220	0.80	0.18	0.18	5.0	5.00	7.19	1.26	5.00	1.16	15	0.60	384.20	384.05	385.18	385.17	388.46	14
1423-1424	50.99	0.040	1.240	0.90	0.04	0.94	5.0	6.29	6.78	6.40	34.27	1.53	30	0.70	380.70	380.35	382.54	382.54	387.26	15
1424-1425	78.20	0.310	1.200	0.75	0.23	0.91	5.0	6.04	6.86	6.23	18.07	2.57	24	0.64	381.30	380.80	382.56	382.54	386.63	16
1425-1427	163.36	0.030	0.450	0.90	0.03	0.37	5.0	5.39	7.06	2.59	8.42	2.71	18	0.64	382.45	381.40	383.07	382.69	388.35	17
1427-1428	26.27	0.130	0.130	0.75	0.10	0.10	5.0	5.00	7.19	0.70	5.60	2.79	15	0.75	384.05	383.85	384.39	384.16	388.32	18
1427-1427A	72.20	0.180	0.180	0.80	0.14	0.14	5.0	5.00	7.19	1.03	5.12	3.11	15	0.63	384.00	383.55	384.41	383.93	388.27	19
1435-1436	66.27	0.370	0.370	0.50	0.19	0.19	5.0	5.00	7.19	1.33	5.00	3.30	15	0.60	383.75	383.35	384.22	383.80	386.50	20
1430-1431	70.47	0.090	1.060	0.60	0.05	0.64	5.0	6.27	6.79	4.32	8.42	2.96	18	0.64	382.05	381.60	383.06	383.00	387.35	21
1431-1432	133.68	0.570	0.970	0.60	0.34	0.58	5.0	5.76	6.94	4.04	4.84	4.40	15	0.56	382.90	382.15	383.76	383.04	386.00	22

Notes: IDF File = The Point.IDF, Return Period = 10-yr.

Project File: Storm System 1400.sws

Storm Sewer Tabulation

Stormwater Studio 2022 v 3.0.0.29
Project Name: Storm System 1400
02-25-2022

Project Name: Storm System 1400

Line ID	Length (ft)	Drng Area		C x A		Tc		Intensity	Capacity (cfs)	Velocity (ft/s)	Line		Invert Elev		HGL Elev		Surface Elev		Line No		
		Incr (ac)	Total (ac)	Incr (C)	Total (C)	Inlet (min)	Syst (min)				Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)			
1433-1434	170.65	0.400	0.60	0.24	0.24	5.0	5.00	7.19	1.72	5.07	2.48	15	0.62	384.05	383.00	384.58	384.17	387.00	386.00	23	
1427-1429	69.55	0.110	0.90	0.10	0.10	5.0	5.00	7.19	0.71	5.18	1.73	15	0.64	383.00	382.55	383.35	383.28	387.28	388.35	24	
1425-1426	24.50	0.440	0.440	0.70	0.31	5.0	5.00	7.19	2.21	5.79	3.99	15	0.80	382.35	382.15	382.95	382.72	386.63	386.63	25	
1404-1401	34.79	0.050	0.220	0.90	0.05	0.19	5.0	5.33	7.08	1.34	6.50	3.53	15	1.01	380.90	380.55	381.37	380.96	386.26	385.87	26
1401-1402	63.87	0.170	0.85	0.14	0.14	5.0	5.00	7.19	1.04	5.11	3.10	15	0.63	381.40	381.00	381.81	381.39	385.65	386.26	27	
1418-1419	29.55	0.160	0.610	0.65	0.10	0.40	5.0	5.76	6.94	2.75	33.50	0.60	30	0.67	379.40	379.20	381.52	381.52	384.50	386.91	28
1419-1420	106.40	0.260	0.450	0.65	0.17	0.29	5.0	5.28	7.09	2.07	17.66	0.83	24	0.61	380.25	379.60	381.52	381.52	383.30	384.50	29
1420-1421	51.78	0.190	0.190	0.65	0.12	0.12	5.0	5.00	7.19	0.89	4.92	0.84	15	0.58	380.65	380.35	381.54	381.54	383.45	383.30	30
1405-1406	161.88	0.260	0.370	0.80	0.21	0.30	5.0	5.19	7.12	2.15	4.65	2.50	15	0.52	379.80	378.95	380.46	380.20	384.04	385.87	31
1406-1407	32.50	0.110	0.110	0.85	0.09	0.09	5.0	5.00	7.19	0.67	5.13	1.05	15	0.63	380.10	379.90	380.67	380.67	384.04	384.04	32
1405-1408	45.18	0.060	0.3470	0.80	0.05	1.74	5.0	6.38	6.75	11.76	146.61	0.75	54	0.56	376.00	375.75	380.22	380.22	385.50	385.87	33
1408-1409	147.06	0.120	0.3410	0.80	0.10	1.69	5.0	5.93	6.89	11.66	102.79	0.98	48	0.51	376.85	376.10	380.23	380.22	384.82	385.50	34
1409-1410	24.50	0.130	0.510	0.80	0.10	0.29	5.0	5.40	7.05	2.07	5.76	2.38	15	0.80	379.45	379.25	380.20	380.20	384.82	384.82	35
1410-1411	88.75	0.380	0.380	0.50	0.19	0.19	5.0	5.00	7.19	1.37	2.93	3.58	12	0.68	380.30	379.70	380.80	380.18	383.29	384.82	36
1409-1412	33.78	0.060	0.2780	0.80	0.05	1.30	5.0	5.83	6.92	9.01	57.61	1.28	36	0.75	377.20	376.95	380.24	380.23	384.36	384.82	37
1412-1413	100.11	0.630	0.2720	0.50	0.32	1.25	5.0	5.53	7.01	8.80	17.52	2.80	24	0.60	377.90	377.30	380.34	380.19	382.80	384.36	38
1413-1416	48.60	0.210	1.330	0.35	0.07	0.52	5.0	5.36	7.07	3.69	8.93	2.12	18	0.72	379.10	378.75	380.49	380.44	381.40	382.80	39
1416-1417	93.85	1.120	1.120	0.40	0.45	0.45	5.0	5.00	7.19	3.22	4.96	2.93	15	0.59	379.75	379.20	380.70	380.50	382.90	381.40	40
1413-1414	95.90	0.470	0.760	0.55	0.26	0.42	5.0	5.07	7.16	2.99	4.88	2.44	15	0.57	378.55	378.00	380.63	380.42	382.60	382.80	41
1414-1415	15.31	0.290	0.290	0.55	0.16	0.16	5.0	5.00	7.19	1.15	5.27	0.93	15	0.66	378.75	378.65	380.74	380.73	381.25	382.60	42

Notes: IDF File = The Point.IDF, Return Period = 10-yr.

Project File: Storm System 1400.sws

Energy Grade Line Calculations

Project Name: Storm System 1400

Stormwater Studio 2022 v 3.0.0.29

02-25-2022

Line No	Line Size (in)	Q (cfs)	Downstream						Upstream						Pipe			Junction				
			Invert Elev (ft)	Depth (ft)	Area (sqft)	HGL Elev (ft)	Vel Head (ft)	EGL Elev (ft)	Invert Elev (ft)	Depth (ft)	Area (sqft)	HGL Elev (ft)	Vel Head (ft/s)	EGL Elev (ft)	n Value	Energy Loss (ft)	HGLa Elev (ft)	EGLa Elev (ft)	Energy Loss (ft)			
1	60	40.51	375.15	4.97	19.62	380.12	2.06	0.07	380.19	18.69	375.35	4.77	19.32	380.12	2.10	0.07	380.19	0.013	0.004	380.12	380.19	0.00
2	60	39.28	375.45	4.70	19.16	380.15	2.05	0.07	380.22	32.50	375.65	4.51	18.65	380.16	2.11	0.07	380.23	0.013	0.009	380.16	380.23	0.00
3	30	25.74	378.40	1.67‡	3.47	380.07	7.41	0.85	380.91	87.46	379.00	1.70 ^a	3.54	380.70	7.26	0.82	381.52	0.013	0.605	380.70	381.52	0.00
4	30	22.06	379.50	1.56‡	3.23	381.07	6.83	0.72	381.82	32.88	379.70	1.58	3.26	381.28	6.77	0.71	381.99	0.013	0.169	381.32	382.03	0.04
5	30	21.87	379.90	1.56‡	3.22	381.46	6.80	0.72	382.18	57.73	380.25	1.57	3.24	381.82	6.74	0.71	382.52	0.013	0.347	381.85	382.56	0.04
6	30	15.55	380.35	2.09	4.38	382.43	3.55	0.20	382.63	98.01	381.20	1.32 ^a	2.62	382.51	5.93	0.55	383.06	0.013	0.430	382.51	383.06	0.00
7	24	10.85	382.10	1.04‡	1.66	383.14	6.54	0.66	383.77	32.51	382.50	1.17 ^a	1.90	383.67	5.70	0.51	384.17	0.013	0.405	383.67	384.17	0.00
8	18	9.06	382.95	1.15‡	1.45	384.10	6.24	0.61	384.71	46.53	383.35	1.15	1.46	384.50	6.22	0.60	385.11	0.013	0.399	384.58	385.18	0.08
9	18	6.79	384.20	1.04 ^a	1.31	385.24	5.20	0.42	385.66	145.81	385.10	1.04	1.31	386.14	5.19	0.42	386.56	0.013	0.895	386.19	386.61	0.05
10	15	0.74	385.80	0.30‡	0.23	386.10	3.26	0.17	386.61	84.60	386.55	0.34 ^a	0.28	386.89	2.69	0.11	387.01	0.013	0.390	386.89	387.01	0.00
11	15	0.34	386.65	0.22‡	0.15	386.87	2.34	0.09	387.01	26.70	386.80	0.24	0.16	387.04	2.12	0.07	387.11	0.013	0.098	387.08	387.15	0.04
12	15	0.80	385.85	0.95	1.00	386.60	0.80	0.01	386.61	24.50	385.80	0.81	0.84	386.61	0.96	0.01	386.62	0.013	0.007	386.61	386.63	0.01
13	15	4.74	385.40	0.97	1.02	386.37	4.65	0.34	386.70	88.76	385.95	0.95	1.00	386.90	4.74	0.35	387.25	0.013	0.547	387.02	387.37	0.12
14	15	1.26	384.05	1.12	1.16	385.17	1.09	0.02	385.19	24.51	384.20	0.98	1.03	385.18	1.23	0.02	385.20	0.013	0.010	385.19	385.21	0.01
15	30	6.40	380.35	2.19	4.57	382.54	1.40	0.03	382.57	50.99	380.70	1.84	3.87	382.54	1.65	0.04	382.58	0.013	0.012	382.54	382.59	0.00
16	24	6.23	380.80	1.74	2.90	382.54	2.15	0.07	382.61	78.20	381.30	1.26	2.08	382.56	3.00	0.14	382.70	0.013	0.085	382.58	382.72	0.02
17	18	2.59	381.40	1.29	1.62	382.69	1.61	0.04	382.73	163.36	382.45	0.61 ^a	0.68	383.07	3.80	0.23	383.29	0.013	0.561	383.07	383.29	0.00
18	15	0.70	383.85	0.31‡	0.24	384.16	2.94	0.13	384.30	26.27	384.05	0.34 ^a	0.26	384.39	2.65	0.11	384.49	0.013	0.198	384.39	384.49	0.00
19	15	1.03	383.55	0.38‡	0.32	383.93	3.23	0.16	384.09	72.20	384.00	0.41 ^a	0.35	384.41	2.98	0.14	384.55	0.013	0.453	384.41	384.55	0.00
20	15	1.33	383.35	0.44‡	0.39	383.80	3.42	0.18	384.19	66.27	383.75	0.47	0.42	384.22	3.17	0.16	384.37	0.013	0.186	384.27	384.43	0.06
21	18	4.32	381.60	1.40	1.72	383.00	2.51	0.10	383.10	70.47	382.05	1.01	1.27	383.06	3.40	0.18	383.24	0.013	0.145	383.07	383.25	0.01
22	15	4.04	382.15	0.89	0.93	383.04	4.33	0.29	383.33	133.68	382.90	0.86	0.90	383.76	4.47	0.31	384.07	0.013	0.746	383.88	384.19	0.12

Notes: Return Period = 10-yr. ^a Critical depth. ^b Normal depth. ^c Supercritical.

Project File: Storm System 1400.sws

Energy Grade Line Calculations

Project Name: Storm System 1400

Stormwater Studio 2022 v 3.0.0.29

02-25-2022

Line No	Line Size (in)	Q (cfs)	Downstream						Upstream						n Value	EGLa Elev (ft)	Energy Loss (ft)	Junction				
			Invert Elev (ft)	Depth (ft)	Area (sqft)	HGL Elev (ft)	Vel Head (ft)	EGL Elev (ft)	Invert Elev (ft)	Depth (ft)	Area (sqft)	HGL Elev (ft)	Vel Head (ft/s)	EGL Elev (ft)								
23	15	1.72	383.00	1.17	1.20	384.17	1.44	0.03	384.21	170.65	384.05	0.53 ²	0.49	384.58	0.19	384.77	0.013	0.567	384.58	384.77	0.00	
24	15	0.71	382.55	0.73	0.74	383.28	0.96	0.01	383.30	69.55	383.00	0.35	0.28	383.35	2.51	0.10	383.45	0.013	0.152	383.41	383.51	0.06
25	15	2.21	382.15	0.56†	0.54	382.72	4.14	0.27	382.98	24.50	382.35	0.60 ²	0.58	382.95	3.84	0.23	383.17	0.013	0.197	382.95	383.17	0.00
26	15	1.34	380.55	0.41†	0.35	380.96	3.83	0.23	381.18	34.79	380.90	0.46 ²	0.41	381.37	3.24	0.16	381.53	0.013	0.352	381.37	381.53	0.00
27	15	1.04	381.00	0.39†	0.32	381.39	3.21	0.16	381.55	63.87	381.40	0.41 ²	0.35	381.81	2.99	0.14	381.95	0.013	0.398	381.81	381.95	0.00
28	30	2.75	379.20	2.31	4.74	381.52	0.58	0.01	381.52	29.55	379.40	2.12	4.43	381.52	0.62	0.01	381.52	0.013	0.001	381.52	381.52	0.00
29	24	2.07	379.60	1.92	3.10	381.52	0.67	0.01	381.53	106.40	380.25	1.27	2.11	381.52	0.98	0.01	381.54	0.013	0.013	381.53	381.54	0.00
30	15	0.89	380.35	1.19	1.20	381.54	0.74	0.01	381.54	51.78	380.65	0.89	0.93	381.54	0.95	0.01	381.55	0.013	0.010	381.54	381.56	0.00
31	15	2.15	378.95	1.25	1.23	380.20	1.75	0.05	380.25	161.88	379.80	0.66	0.66	380.46	3.24	0.16	380.62	0.013	0.375	380.51	380.67	0.05
32	15	0.67	379.90	0.77	0.79	380.67	0.85	0.01	380.68	32.50	380.10	0.57	0.54	380.67	1.25	0.02	380.69	0.013	0.013	380.68	380.70	0.01
33	54	11.76	375.75	4.48	15.89	380.22	0.74	0.01	380.23	45.18	376.00	4.23	15.51	380.22	0.76	0.01	380.23	0.013	0.000	380.22	380.23	0.00
34	48	11.66	376.10	4.00	12.56	380.22	0.93	0.01	380.24	147.06	376.85	3.38	11.33	380.23	1.03	0.02	380.25	0.013	0.010	380.23	380.25	0.00
35	15	2.07	379.25	0.95	1.00	380.20	2.07	0.07	380.27	24.50	379.45	0.75	0.77	380.20	2.68	0.11	380.31	0.013	0.043	380.23	380.34	0.03
36	12	1.37	379.70	0.48†	0.37	380.18	3.64	0.21	380.39	88.75	380.30	0.50 ²	0.39	380.80	3.52	0.19	380.99	0.013	0.602	380.80	380.99	0.00
37	36	9.01	376.95	3.00	7.07	380.23	1.28	0.03	380.26	33.78	377.20	3.00	7.07	380.24	1.28	0.03	380.26	0.013	0.006	380.24	380.27	0.00
38	24	8.80	377.30	2.00	3.14	380.19	2.80	0.12	380.31	100.11	377.90	2.00	3.14	380.34	2.80	0.12	380.47	0.013	0.152	380.35	380.48	0.01
39	18	3.69	378.75	1.50	1.77	380.44	2.09	0.07	380.50	48.60	379.10	1.39	1.71	380.49	2.16	0.07	380.56	0.013	0.055	380.49	380.56	0.00
40	15	3.22	379.20	1.25	1.23	380.50	2.62	0.11	380.61	93.85	379.75	0.95	1.00	380.70	3.23	0.16	380.86	0.013	0.253	380.75	380.92	0.06
41	15	2.99	378.00	1.25	1.23	380.42	2.44	0.09	380.51	95.90	378.55	1.25	1.23	380.63	2.44	0.09	380.72	0.013	0.206	380.65	380.74	0.02
42	15	1.15	378.65	1.25	1.23	380.73	0.93	0.01	380.75	15.31	378.75	1.25	1.23	380.74	0.93	0.01	380.75	0.013	0.005	380.74	380.75	0.00

Notes: Return Period = 10-yr. ² Critical depth. † Supercritical.

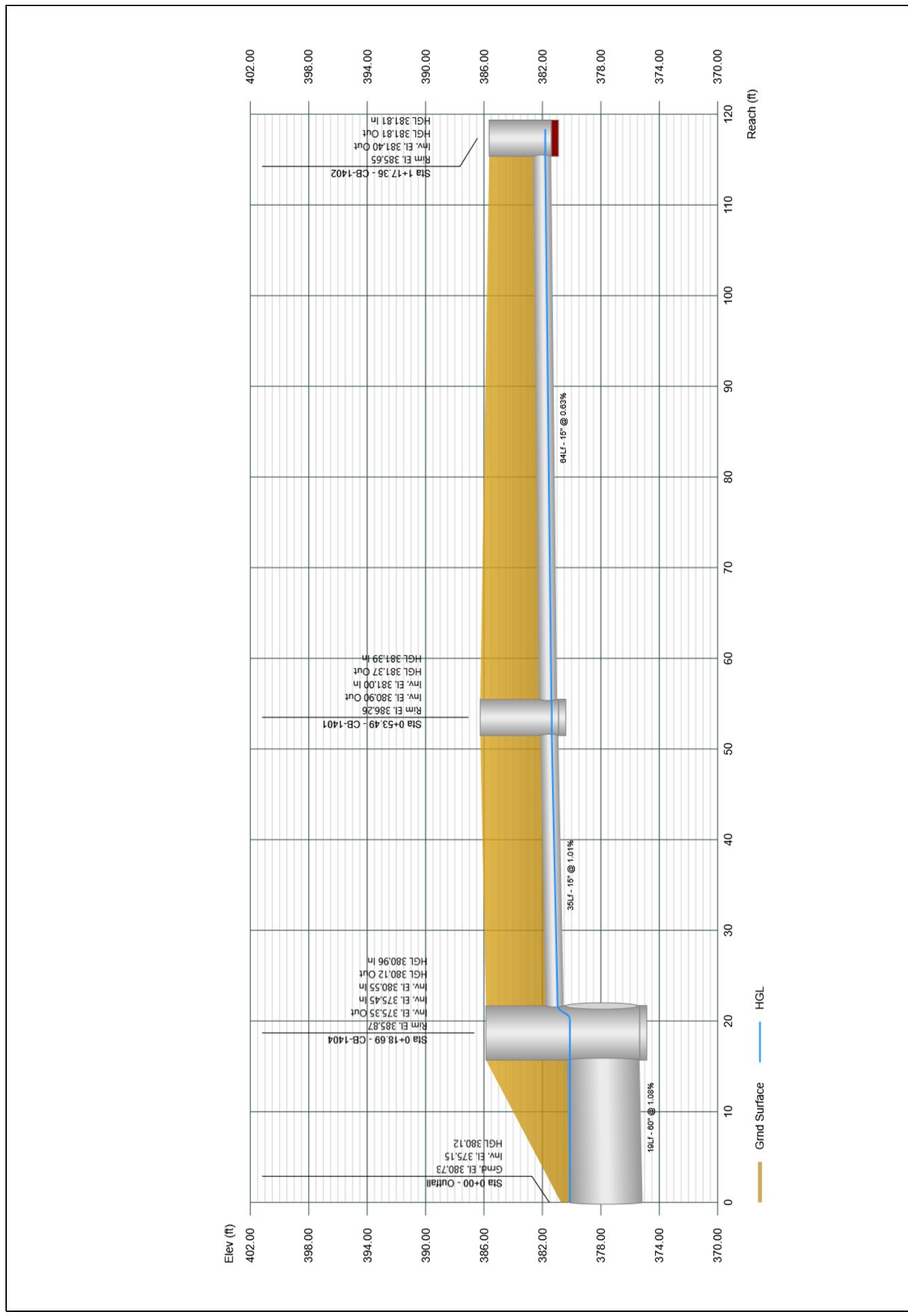
Project File: Storm System 1400.sws

Profile View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 1400

02-25-2022

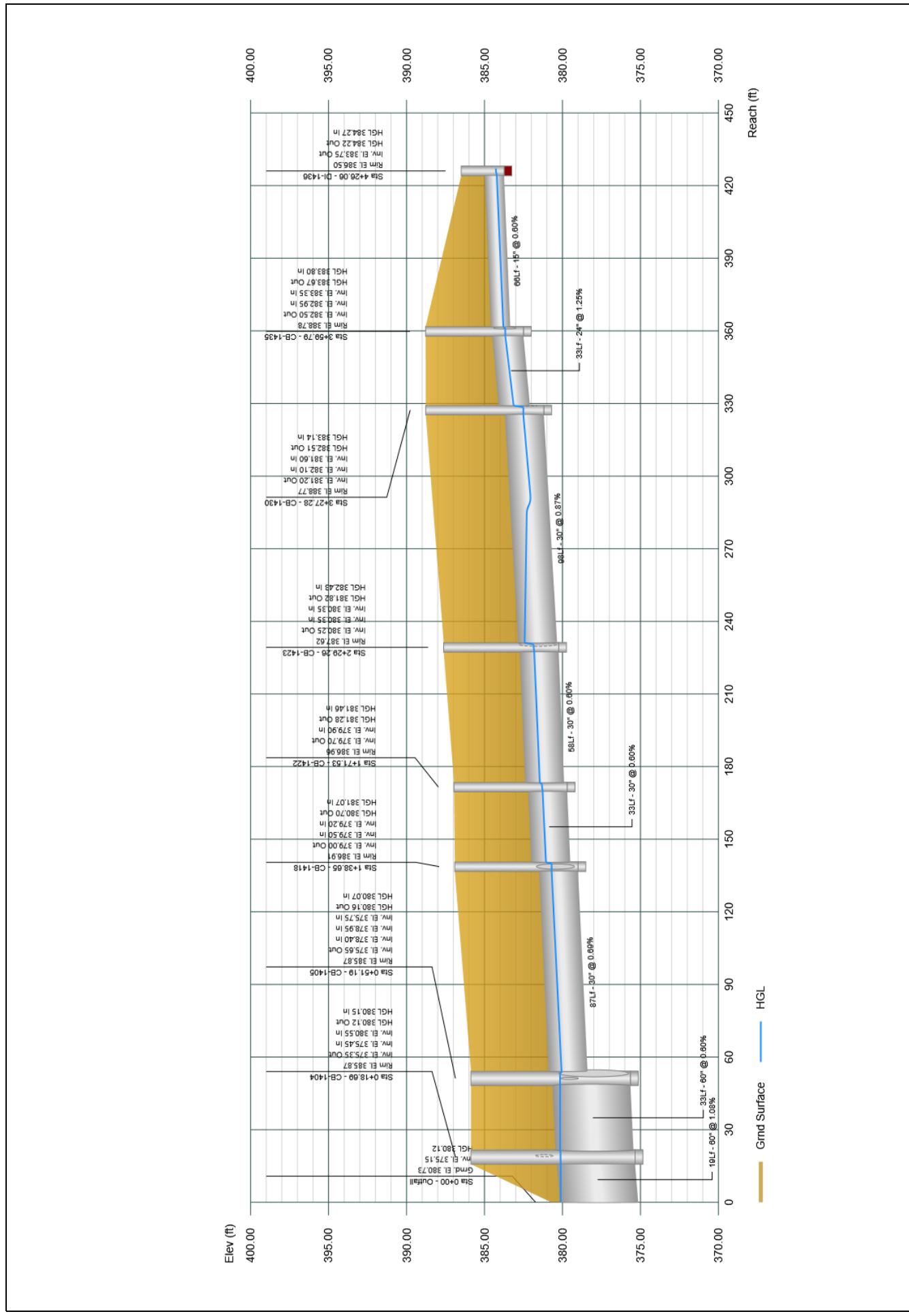


Profile View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 1400

02-25-2022

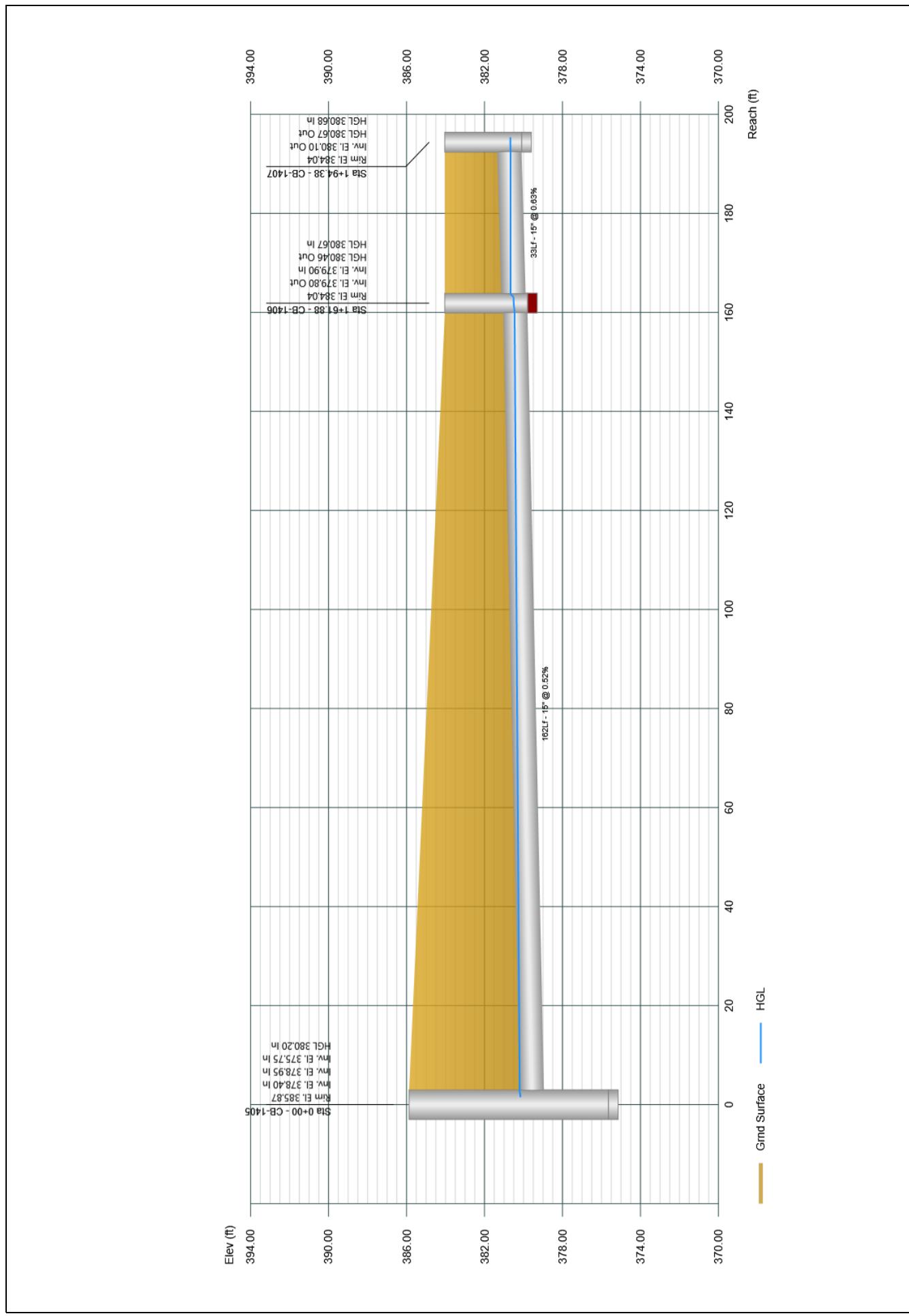


Profile View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 1400

02-25-2022

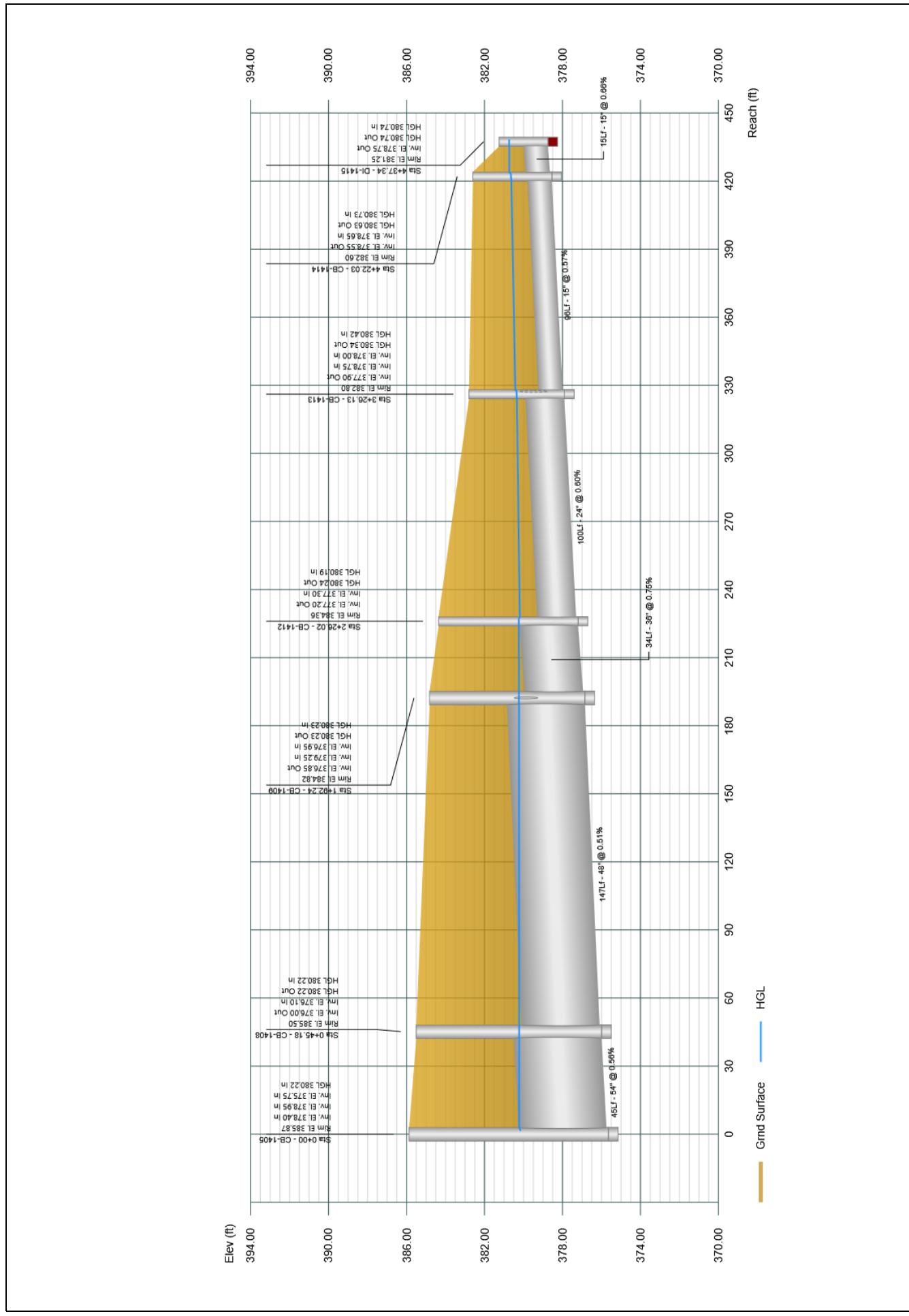


Profile View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 1400

02-25-2022

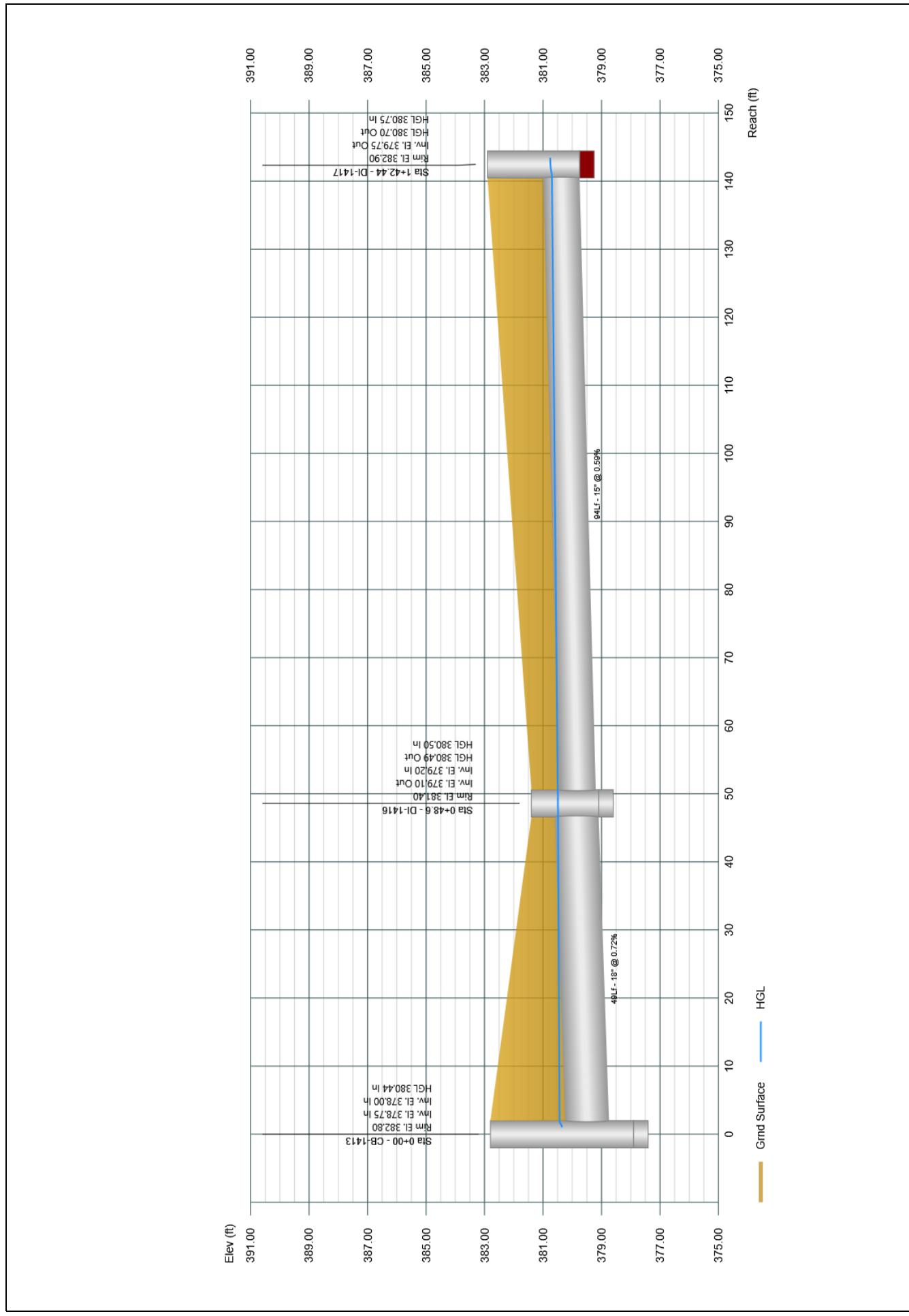


Profile View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 1400

02-25-2022



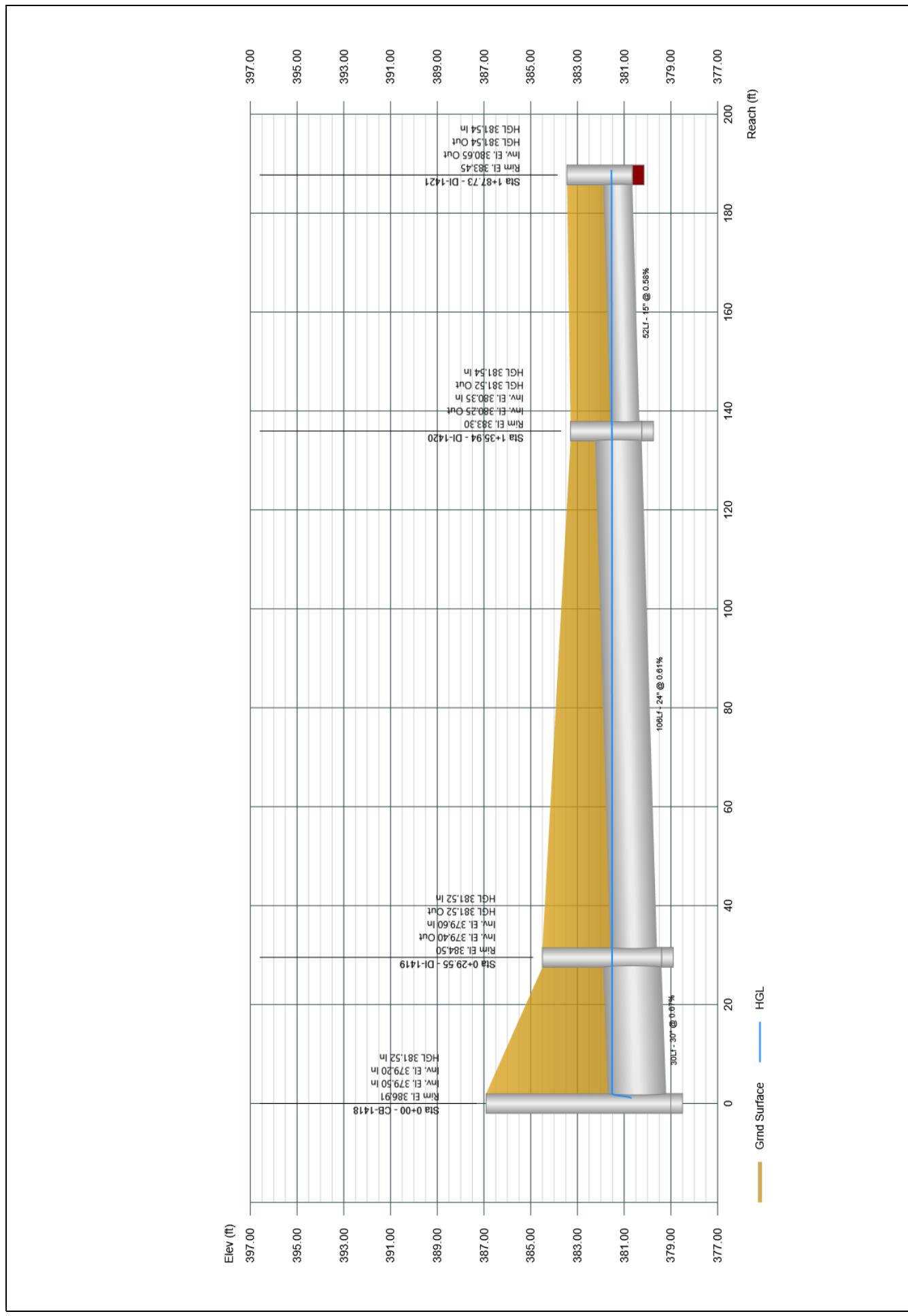
Project File: Storm System 1400.sws

Profile View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 1400

02-25-2022

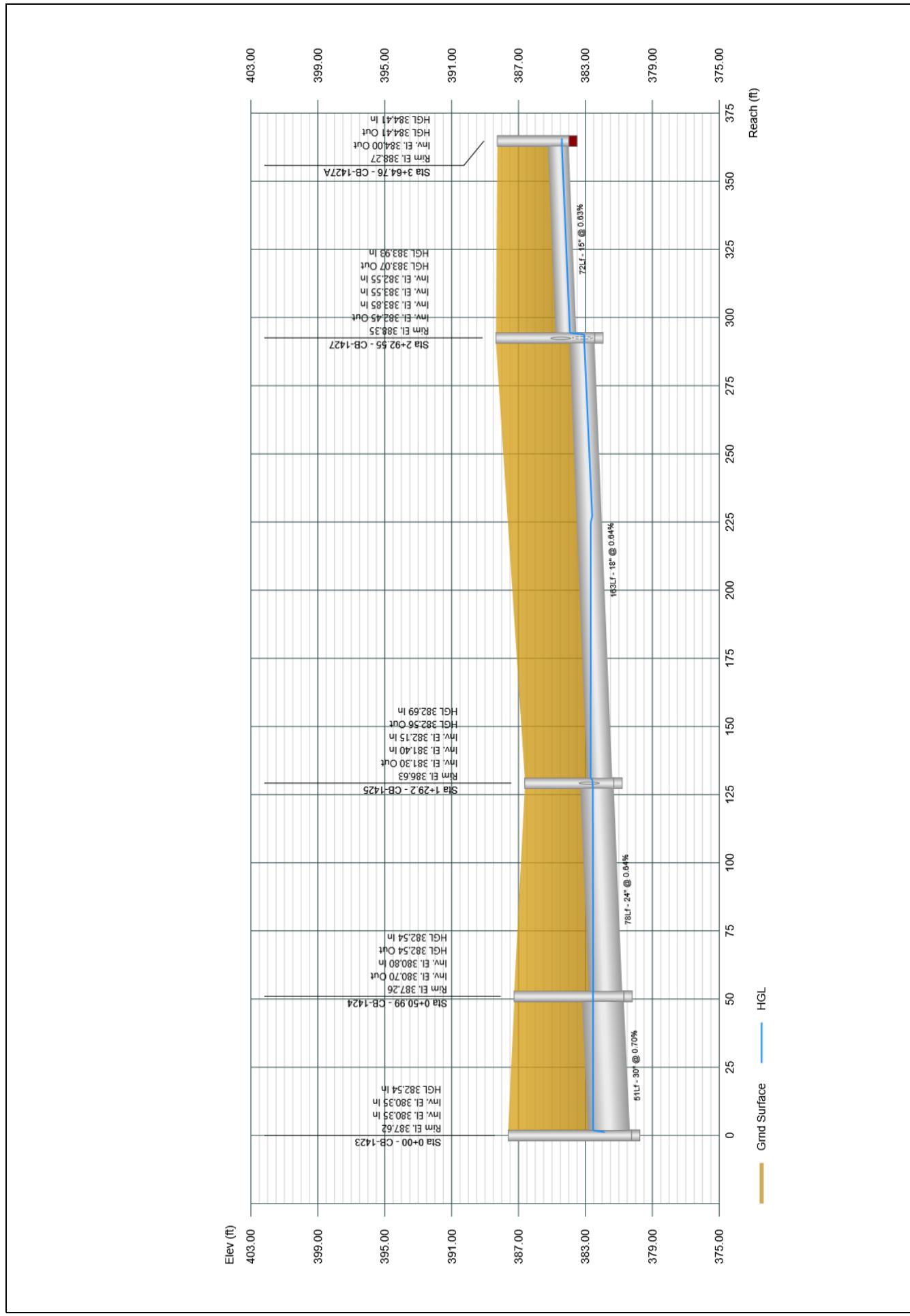


Profile View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 1400

02-25-2022

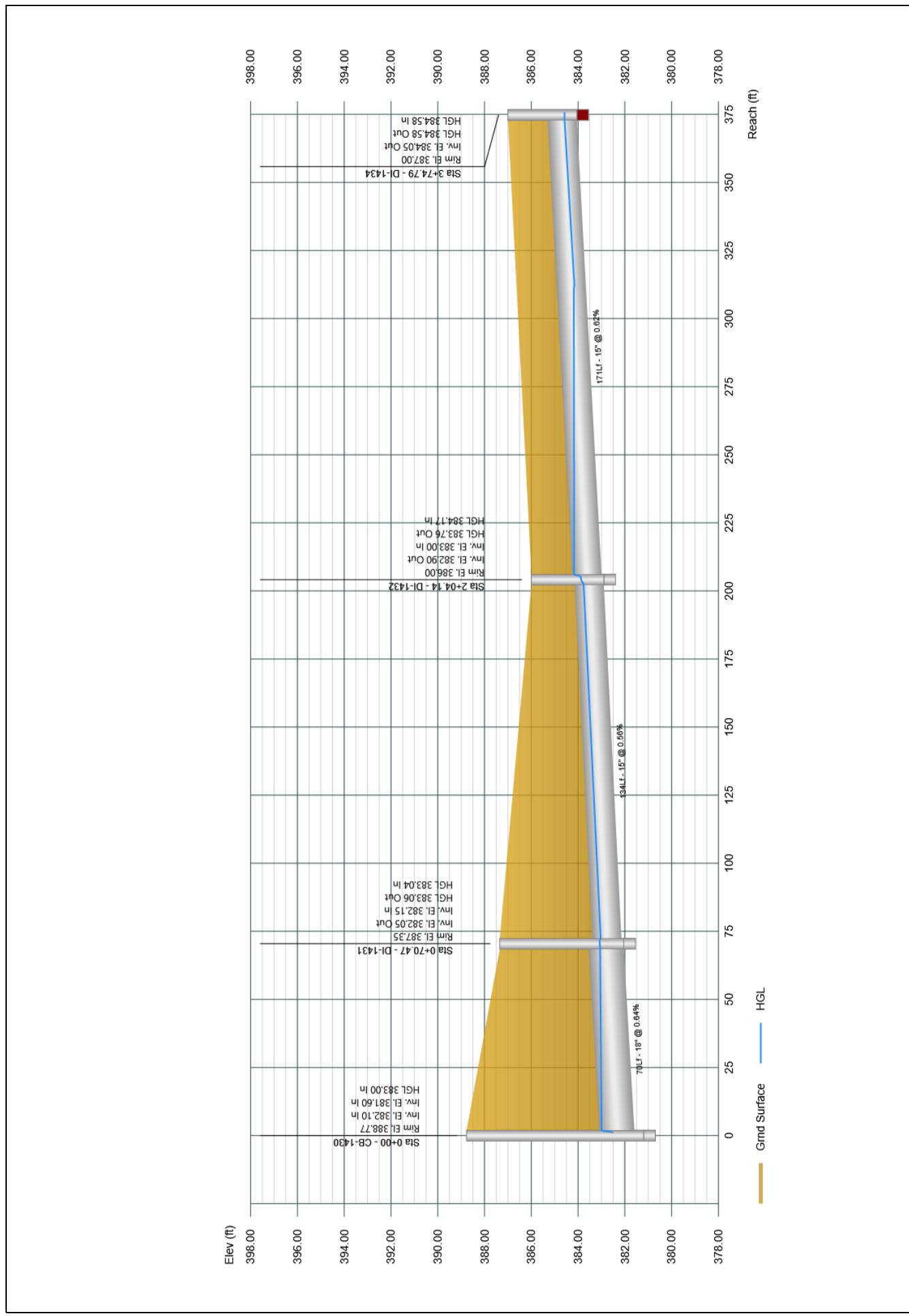


Profile View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 1400

02-25-2022



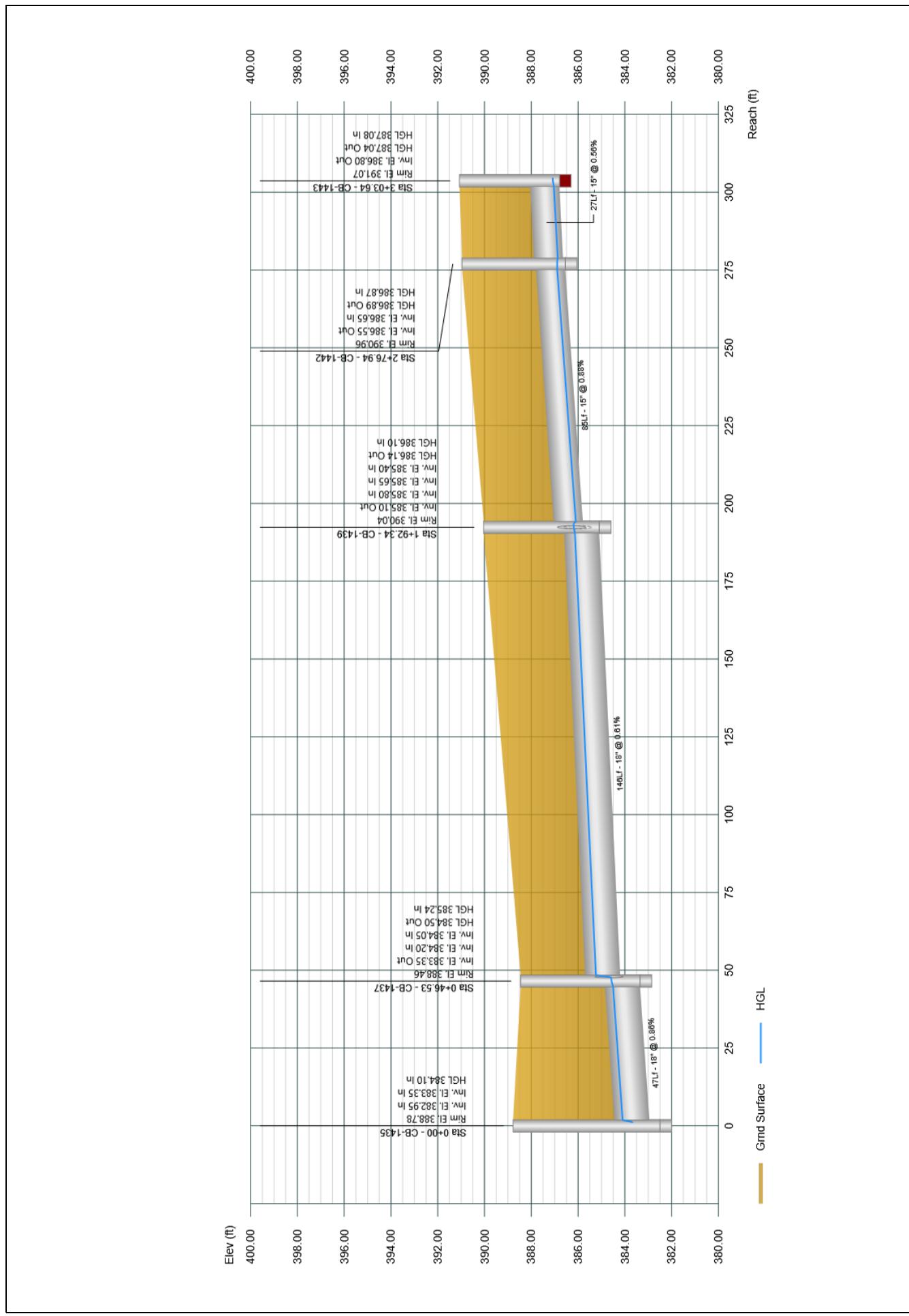
Project File: Storm System 1400.sws

Profile View

Stormwater Studio 2022 v 3.0.0.29

Project Name: Storm System 1400

02-25-2022



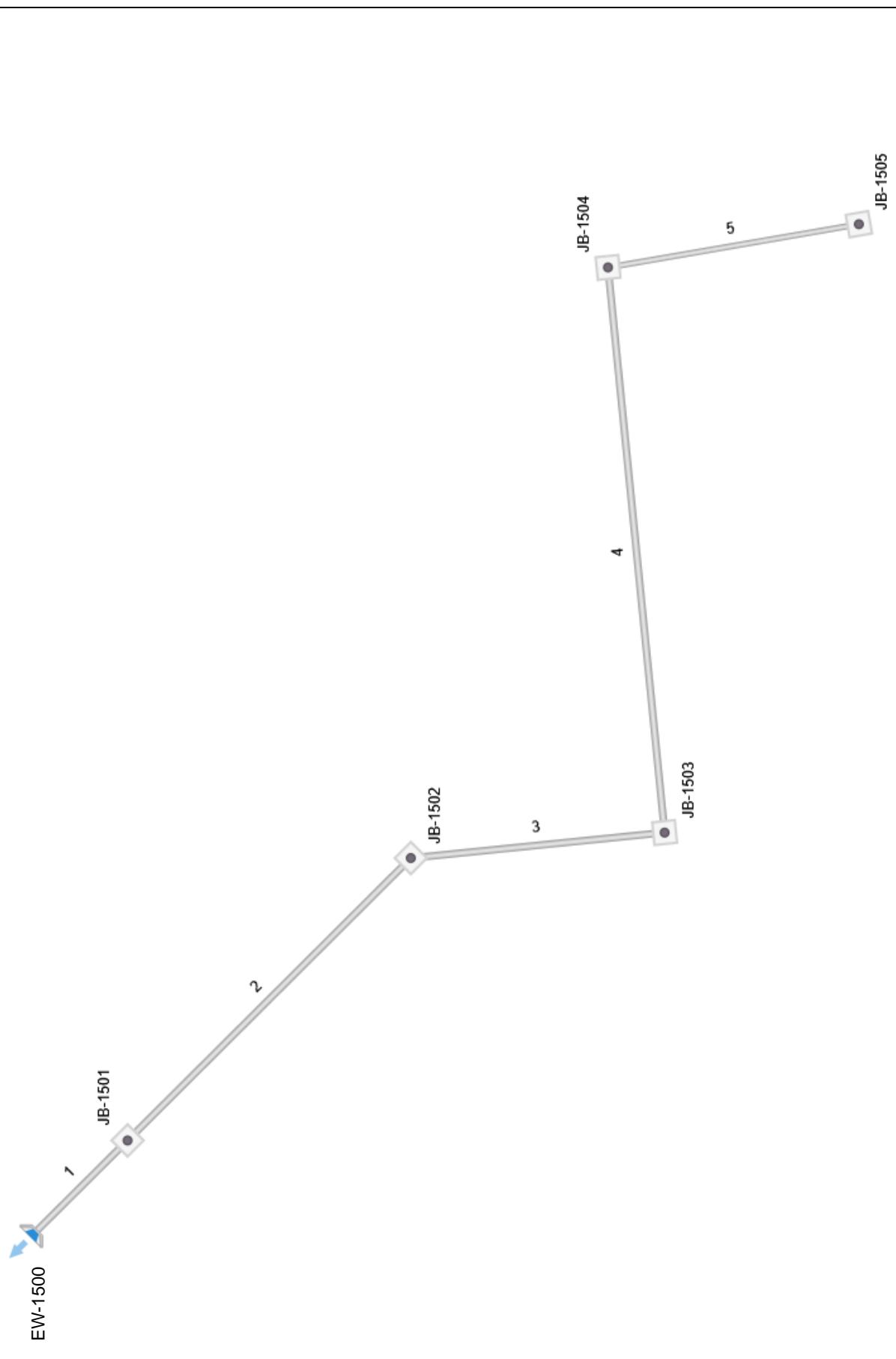
SYSTEM 1500 – REPORTS AND PROFILES

Plan View

Stormwater Studio 2021 v 3.0.0.25

Project Name: Storm System 1500

07-19-2021



Project File: Storm System 1500.sws

Storm Sewer Tabulation

Project Name: Storm System 1500

Stormwater Studio 2021 v 3.0.0.25

07-19-2021

Line ID	Length (ft)	Drng Area		C x A		Tc		Intensity	Total Q	Capacity	Velocity	Line		Invert Elev		HGL Elev		Surface Elev		Line No
		Incr (ac)	Total (ac)	Incr (C)	Total (C)	Inlet (min)	Syst (min)					Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
1500-1501	33.48	0.000	0.000	0.00	0.00	0.0	0.12	0.00	9.10	17.52	5.36	24	0.60	380.70	380.50	381.77	381.55	388.83	385.00	1
1501-1502	105.11	0.000	0.000	0.00	0.00	0.0	0.81	0.00	9.10	17.09	5.39	24	0.57	381.40	380.80	382.47	381.85	388.54	388.83	2
1502-1503	67.07	0.000	0.000	0.00	0.00	0.0	0.61	0.00	9.10	17.47	5.39	24	0.60	381.90	381.50	382.97	382.54	387.66	388.54	3
1503-1504	149.18	0.000	0.000	0.00	0.00	0.0	0.17	0.00	9.10	18.05	5.49	24	0.64	382.95	382.00	384.02	383.02	388.00	387.66	4
1504-1505	66.93	0.000	0.000	0.00	0.00	0.0	0.00	0.00	9.10	9.96	6.29	18	0.90	383.90	383.30	385.05	384.44	389.80	388.00	5

Notes:

Project File: Storm System 1500.sws

Energy Grade Line Calculations

Project Name: Storm System 1500

07-19-2021

Stormwater Studio 2021 v 3.0.0.25

Line No	Line Size (in)	Q (cfs)	Downstream						Upstream						n Value	EGL Elev (ft)	HGLa Elev (ft)	Energy Loss (ft)	Junction			
			Invert Elev (ft)	Depth (ft)	Area (sqft)	HGL Elev (ft)	Vel Head (ft)	EGL Elev (ft)	Invert Elev (ft)	Depth (ft)	Area (sqft)	HGL Elev (ft)	Vel Head (ft/s)	EGL Elev (ft)								
1	24	9.10	380.50	1.05‡	1.68	381.55	5.42	0.46	382.01	33.48	380.70	1.07	1.72	381.77	5.30	0.44	382.21	0.013	381.91	382.36	0.15	
2	24	9.10	380.80	1.05‡	1.67	381.85	5.45	0.46	382.35	105.11	381.40	1.07 ²	1.71	382.47	5.33	0.44	382.91	0.013	0.564	382.83	383.14	0.23
3	24	9.10	381.50	1.04‡	1.66	382.54	5.48	0.47	383.13	67.07	381.90	1.07	1.72	382.97	5.30	0.44	383.41	0.013	0.279	383.46	383.70	0.29
4	24	9.10	382.00	1.02‡	1.61	383.02	5.65	0.50	383.69	149.18	382.95	1.07 ²	1.71	384.02	5.33	0.44	384.46	0.013	0.769	384.63	384.83	0.37
5	18	9.10	383.30	1.14‡	1.44	384.44	6.32	0.62	385.10	66.93	383.90	1.15 ²	1.46	385.05	6.25	0.61	385.66	0.013	0.562	385.28	385.75	0.09

Notes: ² Critical depth. ‡ Supercritical.

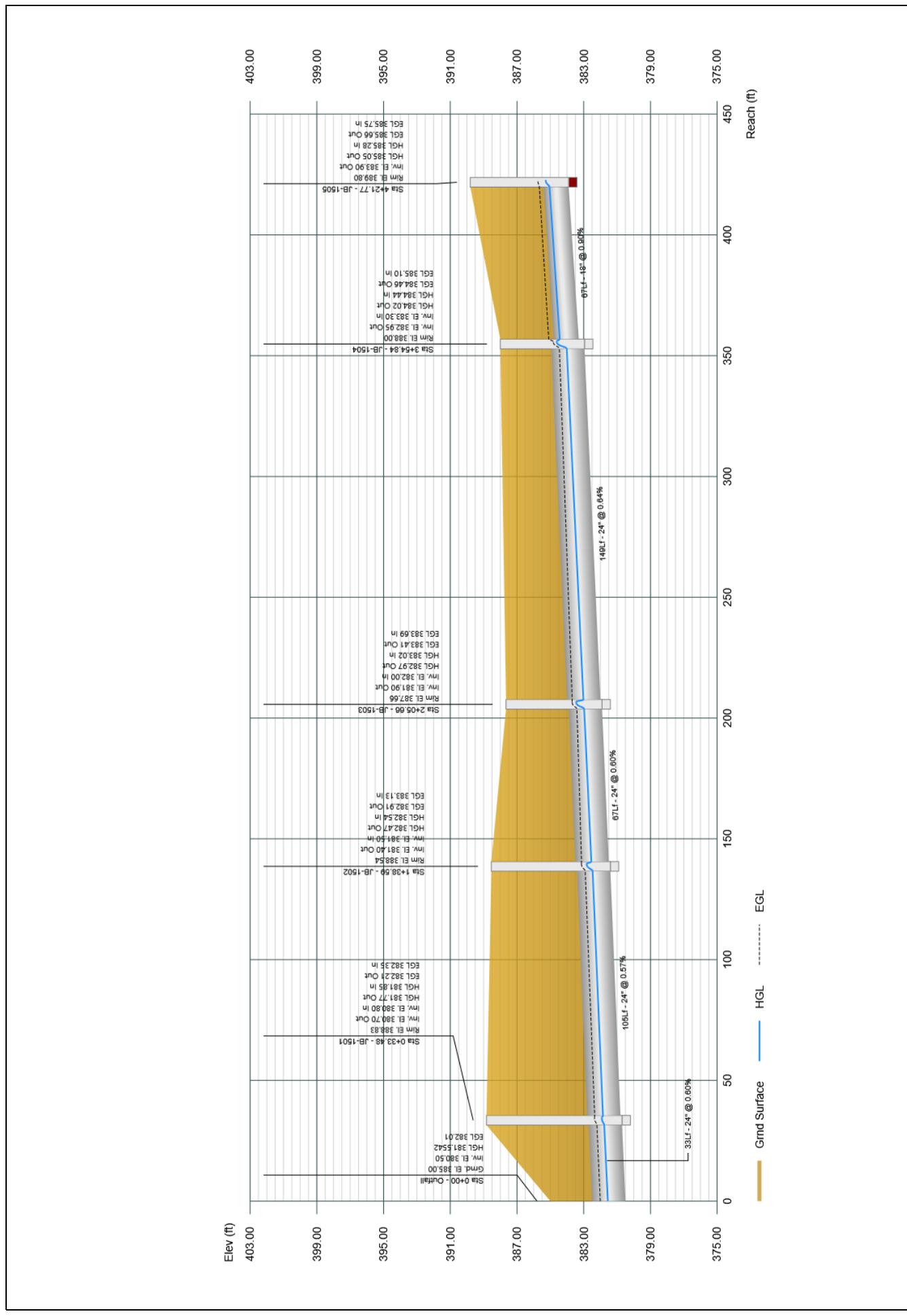
Project File: Storm System 1500.sws

Profile View

Stormwater Studio 2021 v 3.0.0.25

Project Name: Storm System 1500

07-19-2021



VELOCITY DISSIPATOR CALCULATIONS

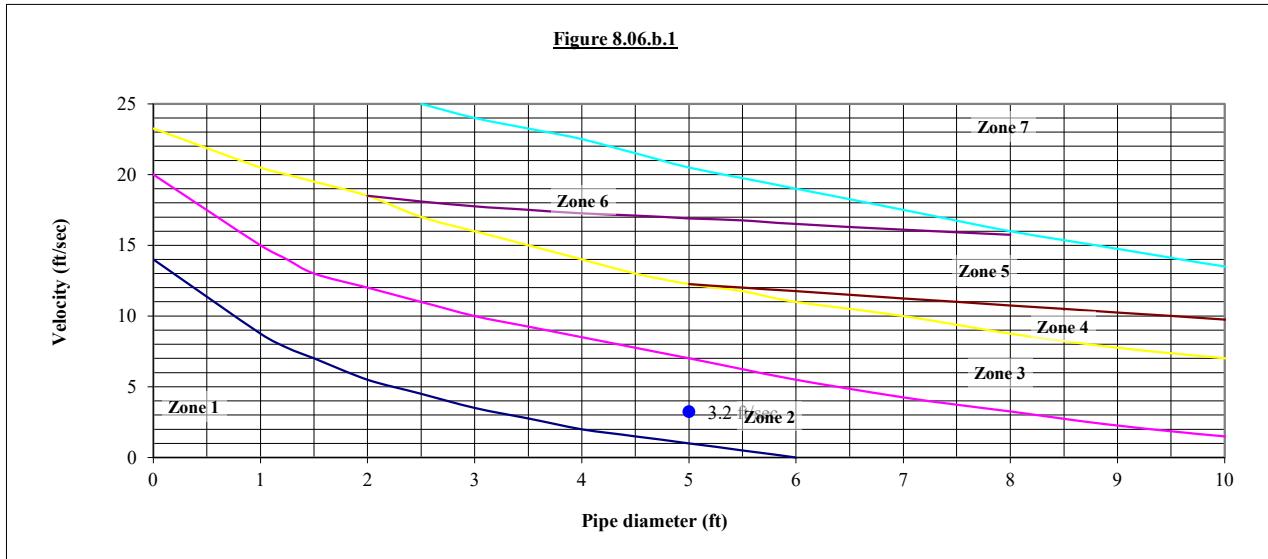


DESIGN OF RIPRAP OUTLET PROTECTION WORKSHEET

Project: The Point South - Pkg 2
 Project Number: AWH-20000
 Outlet Number: EW-700

Date: 7/19/2021
 Calculated By: WTO

Outlet flowrate = 0 cfs
 Pipe diameter = 60 inches
 Number of pipes = 1
 Pipe separation = 0 feet
 Outlet Velocity = 3.24 ft/sec



Zone from graph above = 2

Outlet pipe diameter	60 in.
Outlet flowrate	0.0 cfs
Outlet velocity	3.2 ft/sec
Material	Class B

Length	30.0 ft.
Width	17.0 ft.
Stone diameter	6 in.
Thickness	18 in.

Zone	Material	Diameter	Thickness	Length	Width
1	Class A	3	12	$4 \times D(o)$	$3 \times D(o)$
2	Class B	6	18	$6 \times D(o)$	$3 \times D(o)$
3	Class I	13	24	$8 \times D(o)$	$3 \times D(o)$
4	Class I	13	24	$8 \times D(o)$	$3 \times D(o)$
5	Class II	23	36	$10 \times D(o)$	$3 \times D(o)$
6	Class II	23	36	$10 \times D(o)$	$3 \times D(o)$
7	Special study required				

1. Calculations based on NY DOT method - Pages 8.06.05 through 8.06.06 in NC Erosion Control Manual

2. Outlet velocity based on full-flow velocity

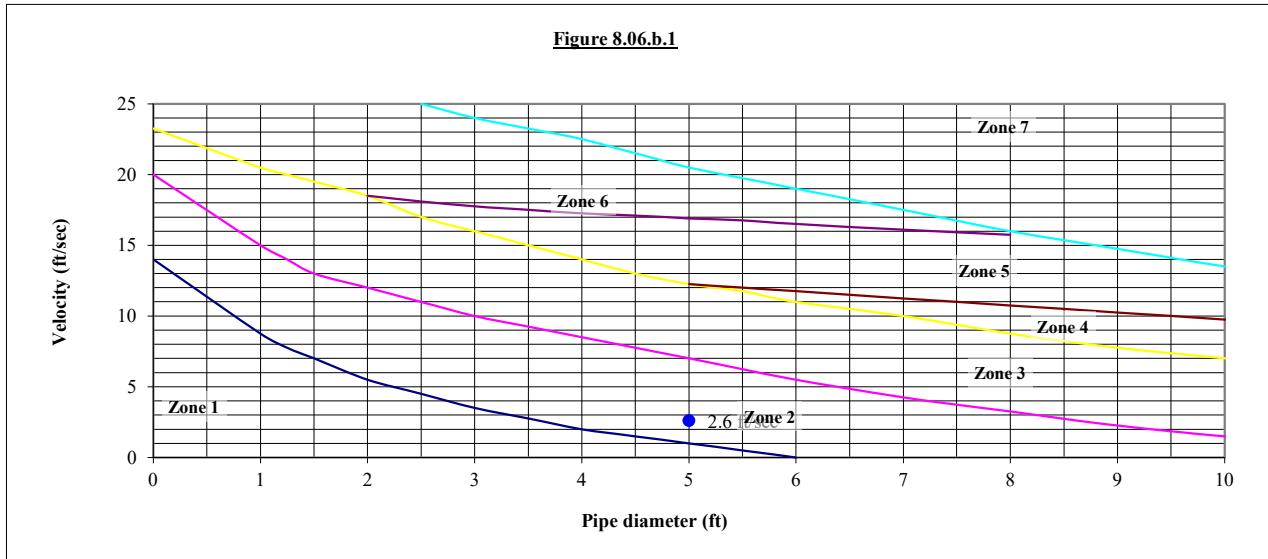


DESIGN OF RIPRAP OUTLET PROTECTION WORKSHEET

Project: The Point South - Pkg 2
 Project Number: AWH-20000
 Outlet Number: EW-800

Date: 7/19/2021
 Calculated By: WTO

Outlet flowrate = 0 cfs
 Pipe diameter = 60 inches
 Number of pipes = 1
 Pipe separation = 0 feet
 Outlet Velocity = 2.61 ft/sec



Zone from graph above = 2

Outlet pipe diameter	60 in.
Outlet flowrate	0.0 cfs
Outlet velocity	2.6 ft/sec
Material	Class B

Length	30.0 ft.
Width	17.0 ft.
Stone diameter	6 in.
Thickness	18 in.

Zone	Material	Diameter	Thickness	Length	Width
1	Class A	3	12	$4 \times D(o)$	$3 \times D(o)$
2	Class B	6	18	$6 \times D(o)$	$3 \times D(o)$
3	Class I	13	24	$8 \times D(o)$	$3 \times D(o)$
4	Class I	13	24	$8 \times D(o)$	$3 \times D(o)$
5	Class II	23	36	$10 \times D(o)$	$3 \times D(o)$
6	Class II	23	36	$10 \times D(o)$	$3 \times D(o)$
7	Special study required				

1. Calculations based on NY DOT method - Pages 8.06.05 through 8.06.06 in NC Erosion Control Manual

2. Outlet velocity based on full-flow velocity

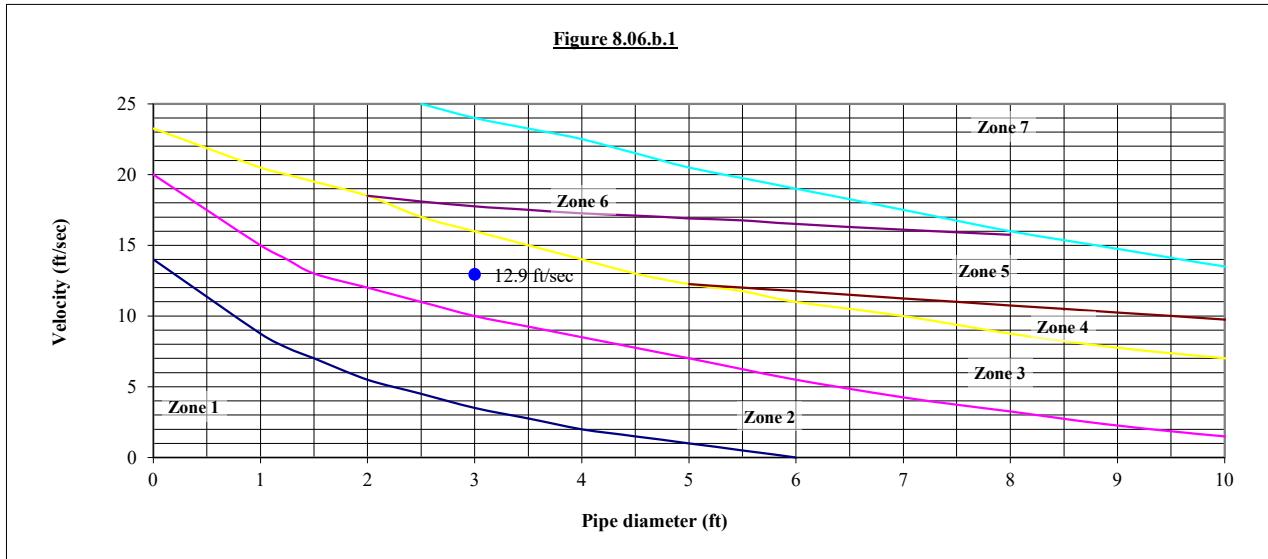


DESIGN OF RIPRAP OUTLET PROTECTION WORKSHEET

Project: The Point South - Pkg 2
 Project Number: AWH-20000
 Outlet Number: EW-900

Date: 7/19/2021
 Calculated By: WTO

Outlet flowrate =	48.16	cfs
Pipe diameter =	36	inches
Number of pipes =	1	
Pipe separation =	0	feet
Outlet Velocity =	12.93	ft/sec



Zone from graph above = 3

Outlet pipe diameter	36 in.
Outlet flowrate	48.2 cfs
Outlet velocity	12.9 ft/sec
Material	Class I

Length	24.0 ft.
Width	12.6 ft.
Stone diameter	13 in.
Thickness	24 in.

Zone	Material	Diameter	Thickness	Length	Width
1	Class A	3	12	$4 \times D(o)$	$3 \times D(o)$
2	Class B	6	18	$6 \times D(o)$	$3 \times D(o)$
3	Class I	13	24	$8 \times D(o)$	$3 \times D(o)$
4	Class I	13	24	$8 \times D(o)$	$3 \times D(o)$
5	Class II	23	36	$10 \times D(o)$	$3 \times D(o)$
6	Class II	23	36	$10 \times D(o)$	$3 \times D(o)$
7	Special study required				

1. Calculations based on NY DOT method - Pages 8.06.05 through 8.06.06 in NC Erosion Control Manual

2. Outlet velocity based on full-flow velocity



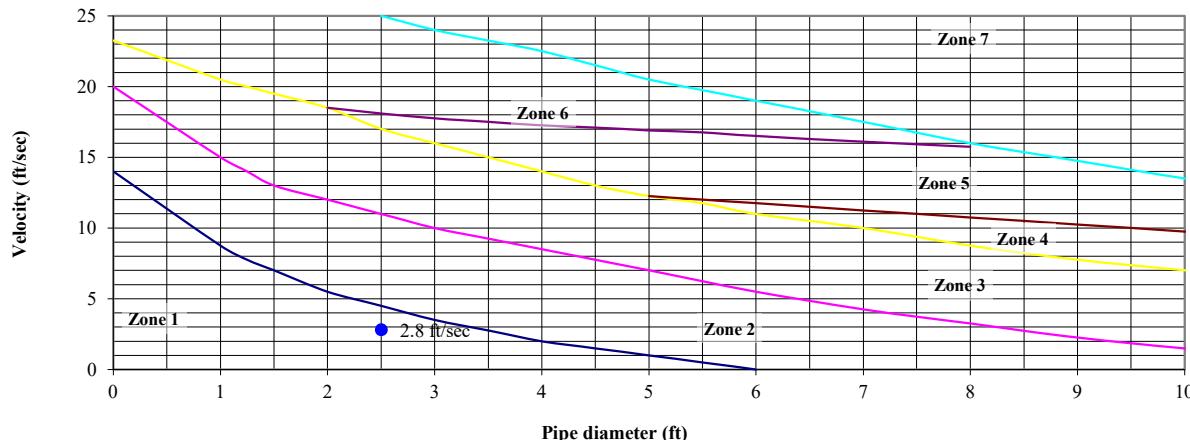
DESIGN OF RIPRAP OUTLET PROTECTION WORKSHEET

Project: The Point South - Pkg 2
 Project Number: AWH-20000
 Outlet Number: EW-1000

Date: 7/19/2021
 Calculated By: WTO

Outlet flowrate =	13.76	cfs
Pipe diameter =	30	inches
Number of pipes =	1	
Pipe separation =	0	feet
Outlet Velocity =	2.8	ft/sec

Figure 8.06.b.1



Zone from graph above = 2

Outlet pipe diameter	30 in.
Outlet flowrate	13.8 cfs
Outlet velocity	2.8 ft/sec
Material	Class B

Length	15.0 ft.
Width	8.5 ft.
Stone diameter	6 in.
Thickness	18 in.

Zone	Material	Diameter	Thickness	Length	Width
1	Class A	3	12	$4 \times D(o)$	$3 \times D(o)$
2	Class B	6	18	$6 \times D(o)$	$3 \times D(o)$
3	Class I	13	24	$8 \times D(o)$	$3 \times D(o)$
4	Class I	13	24	$8 \times D(o)$	$3 \times D(o)$
5	Class II	23	36	$10 \times D(o)$	$3 \times D(o)$
6	Class II	23	36	$10 \times D(o)$	$3 \times D(o)$
7	Special study required				

1. Calculations based on NY DOT method - Pages 8.06.05 through 8.06.06 in NC Erosion Control Manual

2. Outlet velocity based on full-flow velocity

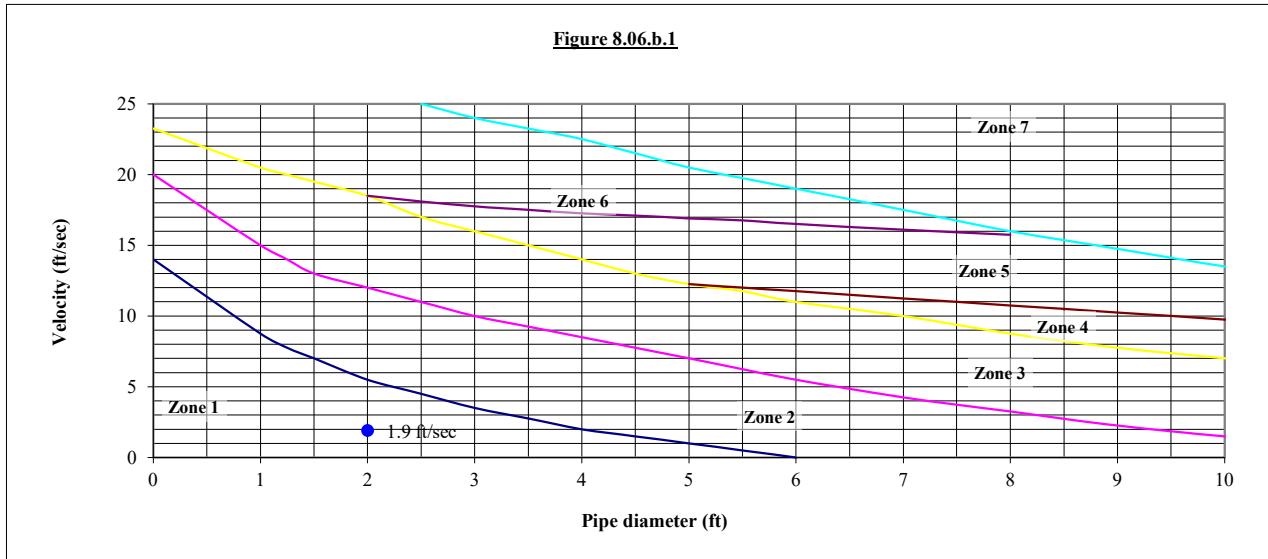


DESIGN OF RIPRAP OUTLET PROTECTION WORKSHEET

Project: The Point South - Pkg 2
 Project Number: AWH-20000
 Outlet Number: EW-1100

Date: 7/19/2021
 Calculated By: WTO

Outlet flowrate =	5.67	cfs
Pipe diameter =	24	inches
Number of pipes =	1	
Pipe separation =	0	feet
Outlet Velocity =	1.91	ft/sec



Zone from graph above = **2**

Outlet pipe diameter	24 in.
Outlet flowrate	5.7 cfs
Outlet velocity	1.9 ft/sec
Material	Class B

Length	12.0 ft.
Width	6.8 ft.
Stone diameter	6 in.
Thickness	18 in.

Zone	Material	Diameter	Thickness	Length	Width
1	Class A	3	12	$4 \times D(o)$	$3 \times D(o)$
2	Class B	6	18	$6 \times D(o)$	$3 \times D(o)$
3	Class I	13	24	$8 \times D(o)$	$3 \times D(o)$
4	Class I	13	24	$8 \times D(o)$	$3 \times D(o)$
5	Class II	23	36	$10 \times D(o)$	$3 \times D(o)$
6	Class II	23	36	$10 \times D(o)$	$3 \times D(o)$
7	Special study required				

1. Calculations based on NY DOT method - Pages 8.06.05 through 8.06.06 in NC Erosion Control Manual

2. Outlet velocity based on full-flow velocity

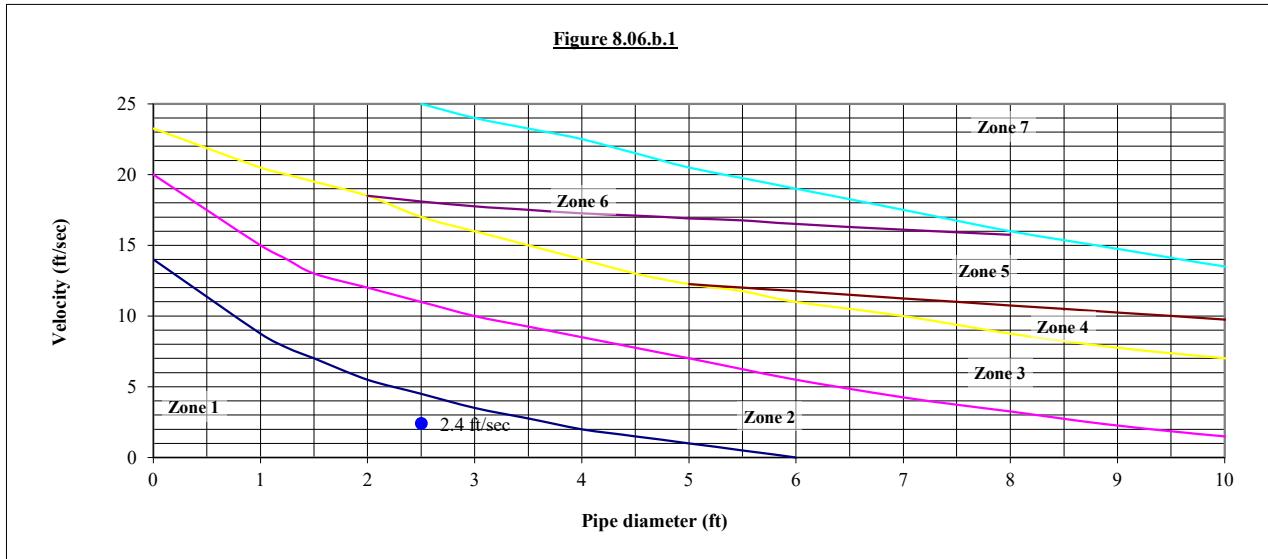


DESIGN OF RIPRAP OUTLET PROTECTION WORKSHEET

Project: The Point South - Pkg 2
 Project Number: AWH-20000
 Outlet Number: EW-1200

Date: 7/19/2021
 Calculated By: WTO

Outlet flowrate =	11.73	cfs
Pipe diameter =	30	inches
Number of pipes =	1	
Pipe separation =	0	feet
Outlet Velocity =	2.4	ft/sec



Zone from graph above = **2**

Outlet pipe diameter	30 in.
Outlet flowrate	11.7 cfs
Outlet velocity	2.4 ft/sec
Material	Class B

Length	15.0 ft.
Width	8.5 ft.
Stone diameter	6 in.
Thickness	18 in.

Zone	Material	Diameter	Thickness	Length	Width
1	Class A	3	12	$4 \times D(o)$	$3 \times D(o)$
2	Class B	6	18	$6 \times D(o)$	$3 \times D(o)$
3	Class I	13	24	$8 \times D(o)$	$3 \times D(o)$
4	Class I	13	24	$8 \times D(o)$	$3 \times D(o)$
5	Class II	23	36	$10 \times D(o)$	$3 \times D(o)$
6	Class II	23	36	$10 \times D(o)$	$3 \times D(o)$
7	Special study required				

1. Calculations based on NY DOT method - Pages 8.06.05 through 8.06.06 in NC Erosion Control Manual

2. Outlet velocity based on full-flow velocity

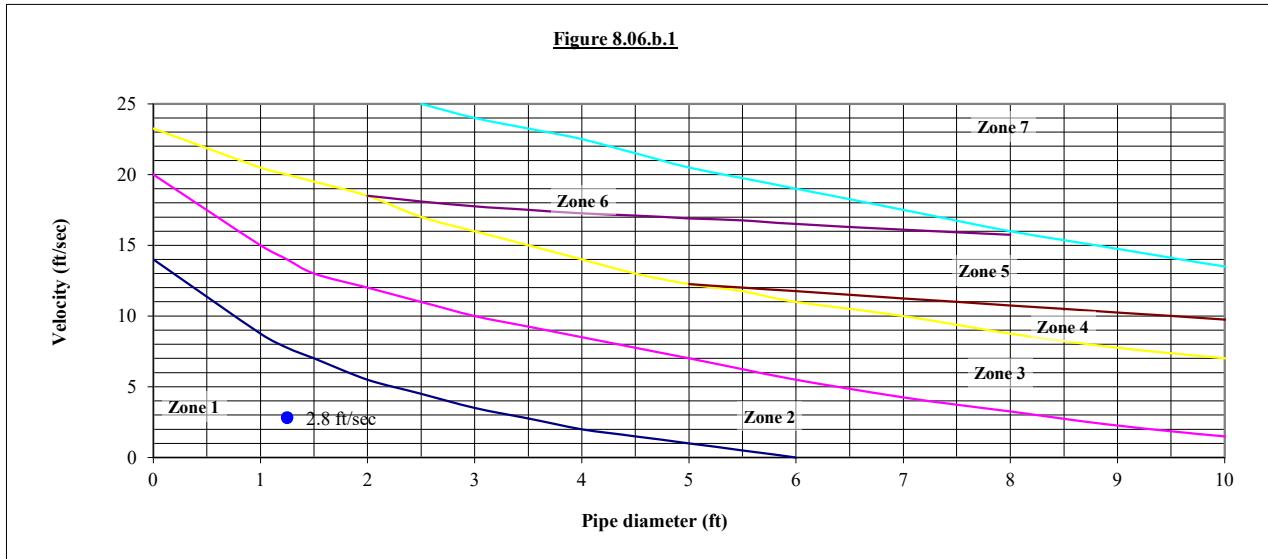


DESIGN OF RIPRAP OUTLET PROTECTION WORKSHEET

Project: The Point South - Pkg 2
 Project Number: AWH-20000
 Outlet Number: EW-1300

Date: 7/19/2021
 Calculated By: WTO

Outlet flowrate =	2.21	cfs
Pipe diameter =	15	inches
Number of pipes =	1	
Pipe separation =	0	feet
Outlet Velocity =	2.82	ft/sec



Zone from graph above = **1**

Outlet pipe diameter	15 in.
Outlet flowrate	2.2 cfs
Outlet velocity	2.8 ft/sec
Material	Class A

Length	5.0 ft.
Width	3.3 ft.
Stone diameter	3 in.
Thickness	12 in.

Zone	Material	Diameter	Thickness	Length	Width
1	Class A	3	12	$4 \times D(o)$	$3 \times D(o)$
2	Class B	6	18	$6 \times D(o)$	$3 \times D(o)$
3	Class I	13	24	$8 \times D(o)$	$3 \times D(o)$
4	Class I	13	24	$8 \times D(o)$	$3 \times D(o)$
5	Class II	23	36	$10 \times D(o)$	$3 \times D(o)$
6	Class II	23	36	$10 \times D(o)$	$3 \times D(o)$
7	Special study required				

1. Calculations based on NY DOT method - Pages 8.06.05 through 8.06.06 in NC Erosion Control Manual

2. Outlet velocity based on full-flow velocity

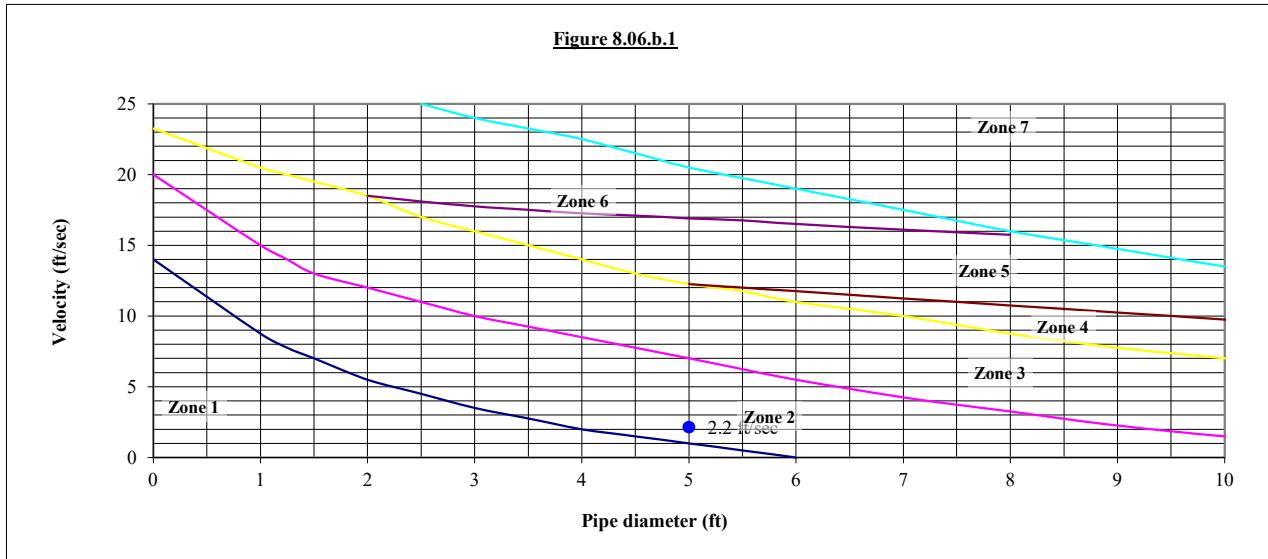


DESIGN OF RIPRAP OUTLET PROTECTION WORKSHEET

Project: The Point South - Pkg 2
 Project Number: AWH-20000
 Outlet Number: EW-1400

Date: 7/19/2021
 Calculated By: WTO

Outlet flowrate = 0 cfs
 Pipe diameter = 60 inches
 Number of pipes = 1
 Pipe separation = 0 feet
 Outlet Velocity = 2.15 ft/sec



Zone from graph above = 2

Outlet pipe diameter	60 in.
Outlet flowrate	0.0 cfs
Outlet velocity	2.2 ft/sec
Material	Class B

Length	30.0 ft.
Width	17.0 ft.
Stone diameter	6 in.
Thickness	18 in.

Zone	Material	Diameter	Thickness	Length	Width
1	Class A	3	12	$4 \times D(o)$	$3 \times D(o)$
2	Class B	6	18	$6 \times D(o)$	$3 \times D(o)$
3	Class I	13	24	$8 \times D(o)$	$3 \times D(o)$
4	Class I	13	24	$8 \times D(o)$	$3 \times D(o)$
5	Class II	23	36	$10 \times D(o)$	$3 \times D(o)$
6	Class II	23	36	$10 \times D(o)$	$3 \times D(o)$
7	Special study required				

1. Calculations based on NY DOT method - Pages 8.06.05 through 8.06.06 in NC Erosion Control Manual

2. Outlet velocity based on full-flow velocity

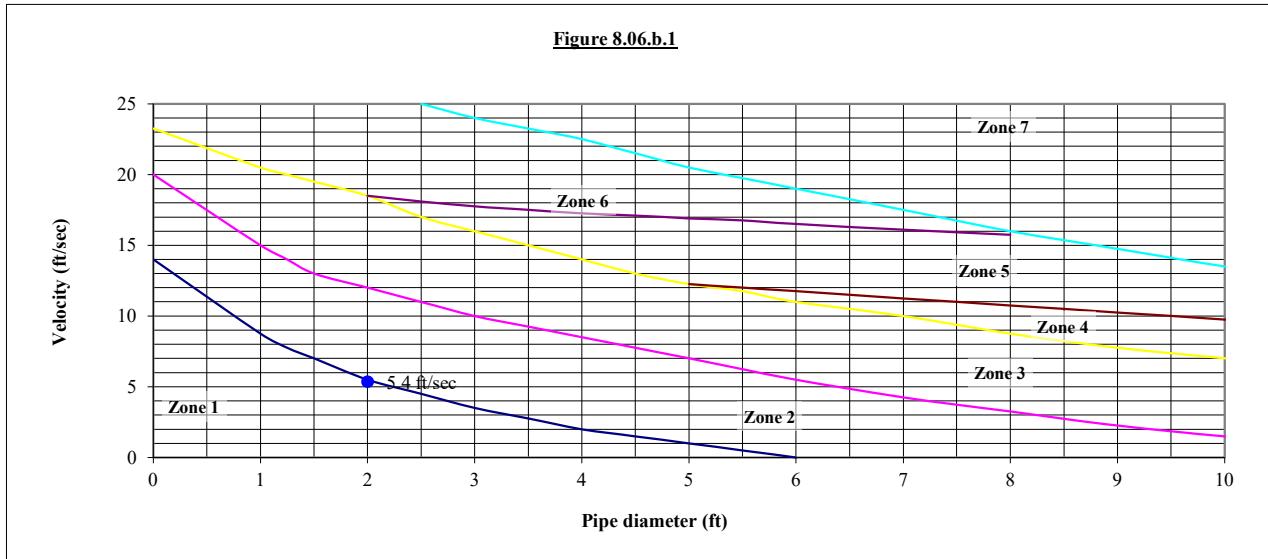


DESIGN OF RIPRAP OUTLET PROTECTION WORKSHEET

Project: The Point South - Pkg 2
 Project Number: AWH-20000
 Outlet Number: EW-1500

Date: 7/19/2021
 Calculated By: WTO

Outlet flowrate =	9.1	cfs
Pipe diameter =	24	inches
Number of pipes =	1	
Pipe separation =	0	feet
Outlet Velocity =	5.36	ft/sec



Zone from graph above = **2**

Outlet pipe diameter	24 in.
Outlet flowrate	9.1 cfs
Outlet velocity	5.4 ft/sec
Material	Class B

Length	12.0 ft.
Width	6.8 ft.
Stone diameter	6 in.
Thickness	18 in.

Zone	Material	Diameter	Thickness	Length	Width
1	Class A	3	12	$4 \times D(o)$	$3 \times D(o)$
2	Class B	6	18	$6 \times D(o)$	$3 \times D(o)$
3	Class I	13	24	$8 \times D(o)$	$3 \times D(o)$
4	Class I	13	24	$8 \times D(o)$	$3 \times D(o)$
5	Class II	23	36	$10 \times D(o)$	$3 \times D(o)$
6	Class II	23	36	$10 \times D(o)$	$3 \times D(o)$
7	Special study required				

1. Calculations based on NY DOT method - Pages 8.06.05 through 8.06.06 in NC Erosion Control Manual

2. Outlet velocity based on full-flow velocity

INLET/GUTTER SPREAD REPORTS

The Point – South Pkg 2
2021110396



Gutter Spread Check

Project Name: The Point - South CD Package 2

Project Number: AWH-20000

Date: 7/23/2021

Line No.	Inlet ID	C&G Width (ft)	B/B Width (ft)	Total Flow to Inlet (cfs)	GutterDepth (ft)	GutterSpread (ft)	Allowable Spread (ft)	CHECK
3	CB-703	2.5	35	0.73	0.09	1.72	9.5	PASS
4	CB-704	2.5	35	0.55	0.07	1.32	9.5	PASS
5	CB-705	2.5	35	0.5	0.15	4.3	9.5	PASS
6	CB-714	2.5	35	0.57	0.15	4.7	9.5	PASS
7	CB-716	2.5	35	0.59	0.16	4.8	9.5	PASS
8	CB-718	2.5	35	0.54	0.15	4.55	9.5	PASS
9	CB-720	2.5	35	0.45	0.14	4.05	9.5	PASS
10	CB-721	2.5	35	0.59	0.16	4.8	9.5	PASS
11	CB-717	2.5	35	0.63	0.16	5	9.5	PASS
12	CB-719	2.5	35	0.55	0.15	4.6	9.5	PASS
13	CB-715	2.5	35	0.54	0.15	4.55	9.5	PASS
14	CB-730	2.5	27	0.07	0.07	1.42	7.5	PASS
15	CB-734	2.5	27	0.3	0.12	3.05	7.5	PASS
23	CB-742	2.5	27	0.99	0.12	2.79	7.5	PASS
24	CB-744	2.5	27	0.49	0.15	4.25	7.5	PASS
25	CB-750	2.5	27	0.55	0.15	4.6	7.5	PASS
26	CB-751	2.5	27	0.53	0.15	4.5	7.5	PASS
27	CB-752	2.5	27	0.49	0.15	4.25	7.5	PASS
28	CB-753	2.5	27	0.48	0.06	1.22	7.5	PASS
29	CB-754	2.5	27	0.52	0.15	4.45	7.5	PASS
30	CB-755	2.5	27	0.33	0.12	3.2	7.5	PASS
31	CB-756	2.5	27	0.03	0.02	0.46	7.5	PASS
32	CB-757	2.5	27	0.24	0.11	2.5	7.5	PASS
33	CB-758	2.5	27	0.31	0.11	3.65	7.5	PASS
34	CB-743	2.5	27	1.05	0.12	2.79	7.5	PASS
35	CB-731	2.5	27	0.2	0.1	2.2	7.5	PASS
36	CB-732	2.5	35	0.51	0.06	1.24	9.5	PASS
37	CB-733	2.5	35	0.55	0.15	4.6	9.5	PASS
38	CB-706	2.5	35	0.49	0.15	4.25	9.5	PASS
46	CB-722	2.5	35	0.11	0.08	1.64	9.5	PASS
47	CB-723	2.5	27	0.04	0.05	1.1	7.5	PASS
48	CB-726	2.5	35	0.56	0.15	4.65	9.5	PASS



Gutter Spread Check

Project Name: The Point - South CD Package 2

Project Number: AWH-20000

Date: 7/23/2021

Line No.	Inlet ID	C&G Width (ft)	B/B Width (ft)	Total Flow to Inlet (cfs)	GutterDepth (ft)	GutterSpread (ft)	Allowable Spread (ft)	CHECK
51	CB-745	2.5	27	0.46	0.14	4.1	7.5	PASS
56	CB-724	2.5	27	0.48	0.05	1.15	7.5	PASS
57	CB-725	2.5	27	1.03	0.1	2.79	7.5	PASS
58	CB-727	2.5	35	0.48	0.14	4.2	9.5	PASS
1	CB-801	2.5	35	0.56	0.05	1.15	9.5	PASS
2	CB-806	2.5	35	1.48	0.14	4.79	9.5	PASS
3	CB-807	2.5	27	0.24	0.09	2.45	7.5	PASS
4	CB-808	2.5	27	0.17	0.08	1.98	7.5	PASS
5	CB-810	2.5	27	0.22	0.08	2.1	7.5	PASS
7	CB-802	2.5	35	0.35	0.13	4.5	9.5	PASS
8	CB-804	2.5	35	0.6	0.13	4.7	9.5	PASS
9	CB-805	2.5	35	0.89	0.16	5.9	9.5	PASS
10	CB-812	2.5	27	0.2	0.09	2.35	7.5	PASS
11	CB-813	2.5	27	0.6	0.13	4.55	7.5	PASS
12	CB-815	2.5	27	0.61	0.12	4.2	7.5	PASS
13	CB-816	2.5	27	0.34	0.1	2.95	7.5	PASS
14	CB-817	2.5	27	0.25	0.09	2.4	7.5	PASS
15	CB-818	2.5	27	0.59	0.14	5.1	7.5	PASS
16	CB-820	2.5	27	0.58	0.14	5.05	7.5	PASS
17	CB-822	2.5	27	0.65	0.15	5.4	7.5	PASS
18	CB-825	2.5	27	0.63	0.15	5.3	7.5	PASS
24	CB-803	2.5	35	0.98	0.2	7.9	9.5	PASS
25	CB-831	2.5	35	0.64	0.15	5.6	9.5	PASS
26	CB-832	2.5	35	0.33	0.12	3.8	9.5	PASS
27	CB-819	2.5	27	0.58	0.14	5.05	7.5	PASS
28	CB-821	2.5	27	0.43	0.13	4.25	7.5	PASS
29	CB-833	2.5	35	0.29	0.11	3.5	9.5	PASS
32	CB-840	2.5	27	0.57	0.15	5.25	7.5	PASS
33	CB-855	2.5	27	1.1	0.11	3.29	7.5	PASS
34	CB-859	2.5	27	0.64	0.16	6.15	7.5	PASS
38	CB-856	2.5	27	0.27	0.1	2.8	7.5	PASS



Gutter Spread Check

Project Name: The Point - South CD Package 2

Project Number: AWH-20000

Date: 7/23/2021

Line No.	Inlet ID	C&G Width (ft)	B/B Width (ft)	Total Flow to Inlet (cfs)	GutterDepth (ft)	GutterSpread (ft)	Allowable Spread (ft)	CHECK
42	CB-857	2.5	27	0.76	0.15	5.25	7.5	PASS
43	CB-841	2.5	27	0.59	0.15	5.3	7.5	PASS
44	CB-843	2.5	27	0.43	0.1	2.8	7.5	PASS
45	CB-844	2.5	27	0.46	0.1	2.9	7.5	PASS
47	CB-846	2.5	27	0.36	0.09	2.5	7.5	PASS
48	CB-850	2.5	27	0.11	0.06	1.62	7.5	PASS
49	CB-853	2.5	27	0.1	0.07	1.72	7.5	PASS
50	CB-854	2.5	27	0.09	0.09	2.4	7.5	PASS
51	CB-851	2.5	27	0.16	0.07	1.82	7.5	PASS
53	CB-823	2.5	27	0.57	0.14	5	7.5	PASS
54	CB-824	2.5	27	0.55	0.14	4.9	7.5	PASS
55	CB-847	2.5	27	0.56	0.11	3.3	7.5	PASS
60	CB-834	2.5	35	0.1	0.03	0.8	9.5	PASS
61	CB-835	2.5	35	0.2	0.1	2.8	9.5	PASS
62	CB-836	2.5	27	0.48	0.06	1.4	7.5	PASS
1	CB-901	2.5	27	0.53	0.05	1.15	7.5	PASS
2	CB-902	2.5	27	0.41	0.04	0.9	7.5	PASS
3	CB-903	2.5	27	0.17	0.09	2.65	7.5	PASS
4	CB-904	2.5	35	0.45	0.1	2.8	9.5	PASS
5	CB-905	2.5	35	0.16	0.07	1.65	9.5	PASS
6	CB-906	2.5	27	0.49	0.11	3.7	7.5	PASS
7	CB-907	2.5	27	0.53	0.12	3.9	7.5	PASS
8	CB-915	2.5	27	0.37	0.12	3.85	7.5	PASS
9	CB-920	2.5	27	0.44	0.1	3.05	7.5	PASS
10	CB-921	2.5	27	0.51	0.11	3.35	7.5	PASS
11	CB-922	2.5	27	0.31	0.08	2.2	7.5	PASS
12	CB-924	2.5	27	0.51	0.1	3.05	7.5	PASS
13	CB-928	2.5	27	0.3	0.1	2.85	7.5	PASS
14	CB-931	2.5	27	0.39	0.11	3.35	7.5	PASS
15	CB-932	2.5	27	0.25	0.08	1.95	7.5	PASS
16	CB-934	2.5	27	0.49	0.1	3.15	7.5	PASS



Gutter Spread Check

Project Name: The Point - South CD Package 2

Project Number: AWH-20000

Date: 7/23/2021

Line No.	Inlet ID	C&G Width (ft)	B/B Width (ft)	Total Flow to Inlet (cfs)	GutterDepth (ft)	GutterSpread (ft)	Allowable Spread (ft)	CHECK
17	CB-937	2.5	27	0.84	0.13	4.4	7.5	PASS
21	CB-923	2.5	27	0.26	0.08	1.95	7.5	PASS
22	CB-941	2.5	27	0.51	0.12	3.85	7.5	PASS
23	CB-942	2.5	27	1.09	0.16	6.05	7.5	PASS
24	CB-908	2.5	35	0.17	0.07	1.67	9.5	PASS
26	CB-925	2.5	27	0.53	0.1	3.15	7.5	PASS
30	CB-933	2.5	27	0.67	0.11	3.65	7.5	PASS
31	CB-910	2.5	35	0.31	0.08	2.2	9.5	PASS
32	CB-911	2.5	35	0.47	0.1	2.9	9.5	PASS
33	CB-912	2.5	35	0.82	0.12	4.1	9.5	PASS
34	CB-913	2.5	35	0.54	0.1	3.15	9.5	PASS
36	CB-929	2.5	27	0.76	0.13	4.25	7.5	PASS
37	CB-930	2.5	27	0.5	0.11	3.25	7.5	PASS
38	CB-943	2.5	27	0.57	0.14	4.95	7.5	PASS
39	CB-944	2.5	27	0.53	0.14	4.75	7.5	PASS
40	CB-945	2.5	27	0.49	0.13	4.35	7.5	PASS
41	CB-946	2.5	27	0.28	0.02	0.4	7.5	PASS
42	CB-947	2.5	27	0.31	0.02	0.4	7.5	PASS
2	CB-1003	2.5	27	0.59	0.11	3.3	7.5	PASS
3	CB-1004	2.5	27	0.13	0.06	1.5	7.5	PASS
4	CB-1005	2.5	27	0.27	0.08	1.98	7.5	PASS
5	CB-1006	2.5	27	0.18	0.08	2.1	7.5	PASS
6	CB-1008	2.5	27	0.66	0.14	5	7.5	PASS
7	CB-1010	2.5	27	0.21	0.08	2.2	7.5	PASS
8	CB-1011	2.5	27	0.2	0.07	1.82	7.5	PASS
9	CB-1012	2.5	27	0.34	0.09	2.45	7.5	PASS
10	CB-1013	2.5	27	0.14	0.06	1.57	7.5	PASS
11	CB-1014	2.5	27	0.13	0.06	1.55	7.5	PASS
12	CB-1015	2.5	27	0.2	0.09	2.45	7.5	PASS
13	CB-1016	2.5	35	0.56	0.12	3.75	9.5	PASS
14	CB-1017	2.5	35	0.51	0.11	3.55	9.5	PASS



Gutter Spread Check

Project Name: The Point - South CD Package 2

Project Number: AWH-20000

Date: 7/23/2021

Line No.	Inlet ID	C&G Width (ft)	B/B Width (ft)	Total Flow to Inlet (cfs)	GutterDepth (ft)	GutterSpread (ft)	Allowable Spread (ft)	CHECK
15	CB-1018	2.5	27	0.34	0.11	3.7	7.5	PASS
16	CB-1019	2.5	27	0.24	0.1	2.95	7.5	PASS
17	CB-1020	2.5	27	0.04	0.05	1.32	7.5	PASS
18	CB-1021	2.5	27	1.04	0.18	7	7.5	PASS
19	CB-1022	2.5	27	0.38	0.11	3.5	7.5	PASS
20	CB-1023	2.5	27	0.58	0.13	4.7	7.5	PASS
21	CB-1024	2.5	27	0.49	0.13	4.25	7.5	PASS
25	CB-1028	2.5	27	0.84	0.16	5.8	7.5	PASS
26	CB-1029	2.5	27	0.66	0.14	4.85	7.5	PASS
27	CB-1030	2.5	27	0.63	0.14	4.75	7.5	PASS
28	CB-1007	2.5	27	0.15	0.08	1.9	7.5	PASS
29	CB-1009	2.5	27	1.02	0.18	7	7.5	PASS
1	CB-1101	2.5	35	0.31	0.09	2.35	9.5	PASS
2	CB-1102	2.5	35	0.62	0.12	3.75	9.5	PASS
3	CB-1103	2.5	35	0.2	0.08	2	9.5	PASS
4	CB-1104	2.5	35	0.16	0.07	1.85	9.5	PASS
1	CB-1404	2.5	35	0.07	0.06	1.52	9.5	PASS
2	CB-1405	2.5	35	0.38	0.12	3.85	9.5	PASS
3	CB-1418	2.5	35	0.74	0.16	5.7	9.5	PASS
4	CB-1422	2.5	35	0.2	0.09	2.5	9.5	PASS
5	CB-1423	2.5	35	0.12	0.08	1.88	9.5	PASS
6	CB-1430	2.5	35	0.33	0.11	3.5	9.5	PASS
7	CB-1435	2.5	35	0.33	0.12	3.65	9.5	PASS
8	CB-1437	2.5	27	0.62	0.15	5.2	7.5	PASS
9	CB-1439	2.5	27	0.37	0.12	3.8	7.5	PASS
10	CB-1442	2.5	27	0.22	0.1	2.75	7.5	PASS
11	CB-1443	2.5	27	0.19	0.09	2.5	7.5	PASS
12	CB-1440	2.5	27	0.42	0.13	4.1	7.5	PASS
14	CB-1438	2.5	27	0.63	0.15	5.25	7.5	PASS
15	CB-1424	2.5	27	0.14	0.08	1.83	7.5	PASS



Gutter Spread Check

Project Name: The Point - South CD Package 2

Project Number: AWH-20000

Date: 7/23/2021

Line No.	Inlet ID	C&G Width (ft)	B/B Width (ft)	Total Flow to Inlet (cfs)	GutterDepth (ft)	GutterSpread (ft)	Allowable Spread (ft)	CHECK
16	CB-1425	2.5	27	0.93	0.09	2.29	7.5	PASS
17	CB-1427	2.5	27	0.11	0.07	1.74	7.5	PASS
18	CB-1428	2.5	27	0.37	0.12	3.65	7.5	PASS
19	CB-1427A	2.5	27	0.58	0.06	1.42	7.5	PASS
24	CB-1429	2.5	27	0.4	0.06	1.42	7.5	PASS
25	CB-1426	2.5	27	1.25	0.12	3.79	7.5	PASS
26	CB-1401	2.5	35	0.18	0.09	2.5	9.5	PASS
27	CB-1402	2.5	27	0.58	0.08	1.52	7.5	PASS
31	CB-1408	2.5	27	0.19	0.09	2.5	7.5	PASS
32	CB-1409	2.5	27	0.37	0.12	3.55	7.5	PASS
33	CB-1410	2.5	27	0.4	0.12	3.7	7.5	PASS
35	CB-1406	2.5	35	0.71	0.16	5.55	9.5	PASS
36	CB-1407	2.5	35	0.36	0.12	3.7	9.5	PASS
37	CB-1412	2.5	27	0.21	0.09	2.4	7.5	PASS
38	CB-1413	2.5	27	1.28	0.12	3.79	7.5	PASS
41	CB-1414	2.5	27	1.03	0.1	2.79	7.5	PASS

Inlet Report

Stormwater Studio 2021 v 3.0.0.25

Project Name: Storm System 700

07-23-2021

Line No	Inlet		Q			Curb			Grate			Gutter			Inlet		Byp Line No			
	Id	Type	Catch (cfs)	Carry (cfs)	Capt (cfs)	Byp (cfs)	Ht (in)	L (ft)	W (ft)	Area (sqft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	
1	JB-701	Manhole	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2	DI-702	Drop Grate	0.06	0.00	0.06	0.00	-	2.00	4.00	Sag	2.00	0.020	0.013	0.02	3.76	0.02	3.76	0.0	0	
3	CB-703	Combination	0.65	0.09	0.73	0.00	3.0	3.00	3.00	3.22	Sag	2.00	0.050	0.020	0.013	0.09	1.72	0.23	1.89	2.5
4	CB-704	Combination	0.51	0.04	0.55	0.00	3.0	3.00	3.00	3.22	Sag	2.00	0.050	0.020	0.013	0.07	1.32	0.21	1.72	2.5
5	CB-705	Combination	0.48	0.06	0.50	0.04	3.0	3.00	3.00	3.22	Sag	2.00	0.050	0.020	0.013	0.15	4.30	0.21	1.69	2.5
6	CB-714	Combination	0.57	0.06	0.57	0.06	3.0	3.00	3.00	3.00	-	0.010	2.00	0.050	0.020	0.013	0.15	4.70	0.22	1.80
7	CB-716	Combination	0.60	0.05	0.59	0.06	3.0	3.00	3.00	2.00	-	0.010	2.00	0.050	0.020	0.013	0.16	4.80	0.23	1.82
8	CB-718	Combination	0.57	0.03	0.54	0.05	3.0	3.00	3.00	2.00	-	0.010	2.00	0.050	0.020	0.013	0.15	4.55	0.22	1.76
9	CB-720	Combination	0.48	0.00	0.45	0.03	3.0	3.00	3.00	2.00	-	0.010	2.00	0.050	0.020	0.013	0.14	4.05	0.20	1.63
10	CB-721	Combination	0.63	0.03	0.59	0.07	3.0	3.00	3.00	2.00	-	0.010	2.00	0.050	0.020	0.013	0.16	4.80	0.23	1.83
11	CB-717	Combination	0.66	0.06	0.63	0.09	3.0	3.00	3.00	2.00	-	0.010	2.00	0.050	0.020	0.013	0.16	5.00	0.23	1.88
12	CB-719	Combination	0.54	0.07	0.55	0.06	3.0	3.00	3.00	2.00	-	0.010	2.00	0.050	0.020	0.013	0.15	4.60	0.22	1.78
13	CB-715	Combination	0.51	0.09	0.54	0.05	3.0	3.00	3.00	2.00	-	0.010	2.00	0.050	0.020	0.013	0.15	4.55	0.22	1.76
14	CB-730	Combination	0.07	0.00	0.07	0.00	3.0	3.00	3.00	2.00	-	0.010	2.00	0.050	0.020	0.013	0.07	1.42	0.10	0.80
15	CB-734	Combination	0.31	0.00	0.30	0.00	3.0	3.00	3.00	2.00	-	0.010	2.00	0.050	0.020	0.013	0.12	3.05	0.17	1.38
16	DI-735	Drop Grate	0.68	0.00	0.68	0.00	-	2.00	4.00	Sag	2.00	0.020	0.013	0.09	11.25	0.09	11.25	0.0	0	
17	DI-736	Drop Grate	0.81	0.00	0.81	0.00	-	2.00	4.00	Sag	2.00	0.020	0.020	0.013	0.10	12.40	0.10	12.40	0.0	
18	DI-737	Drop Grate	2.18	0.00	2.18	0.00	-	2.00	4.00	Sag	2.00	0.020	0.020	0.013	0.20	22.22	0.20	22.22	0.0	
19	DI-738	Drop Grate	0.58	0.00	0.58	0.00	-	2.00	4.00	Sag	2.00	0.020	0.020	0.013	0.08	10.31	0.08	10.31	0.0	
20	DI-739	Drop Grate	1.68	0.00	1.68	0.00	-	2.00	4.00	Sag	2.00	0.020	0.020	0.013	0.17	18.97	0.17	18.97	0.0	
21	DI-740	Drop Grate	1.66	0.00	1.66	0.00	-	2.00	4.00	Sag	2.00	0.020	0.020	0.013	0.17	18.81	0.17	18.81	0.0	
22	DI-741	Drop Grate	1.13	0.00	1.13	0.00	-	2.00	4.00	Sag	2.00	0.020	0.020	0.013	0.13	15.01	0.13	15.01	0.0	

Notes: Return Period = 1-yr. All curb inlets are Horiz throat.,

Project File: Storm System 700.sws

Inlet Report

Stormwater Studio 2021 v 3.0.0.25

Project Name: Storm System 700

07-23-2021

Line No	Inlet		Q				Curb		Grate		Gutter				Inlet		Byp Line No				
	Id	Type	Catch (cfs)	Carry (cfs)	Capt (cfs)	Byp (cfs)	Ht (in)	L (ft)	W (ft)	Area (sqft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	
23	CB-742	Combination	0.95	0.04	0.99	0.00	3.0	3.00	3.00	3.22	Sag	2.00	0.050	0.020	0.013	0.12	2.79	0.26	2.79	2.5	
24	CB-744	Combination	0.48	0.05	0.49	0.04	3.0	3.00	3.00	2.00	-	0.010	2.00	0.050	0.020	0.013	0.15	4.25	0.21	1.68	2.5
25	CB-750	Combination	0.60	0.00	0.55	0.05	3.0	3.00	3.00	2.00	-	0.010	2.00	0.050	0.020	0.013	0.15	4.60	0.22	1.76	2.5
26	CB-751	Combination	0.54	0.04	0.53	0.04	3.0	3.00	3.00	2.00	-	0.010	2.00	0.050	0.020	0.013	0.15	4.50	0.22	1.74	2.5
27	CB-752	Combination	0.48	0.05	0.49	0.04	3.0	3.00	3.00	2.00	-	0.010	2.00	0.050	0.020	0.013	0.15	4.25	0.21	1.68	2.5
28	CB-753	Combination	0.48	0.00	0.48	0.00	3.0	3.00	3.00	2.00	-	1.000	2.00	0.050	0.020	0.013	0.06	1.22	0.09	0.69	2.5
29	CB-754	Combination	0.57	0.00	0.52	0.05	3.0	3.00	3.00	2.00	-	0.010	2.00	0.050	0.020	0.013	0.15	4.45	0.22	1.73	2.5
30	CB-755	Combination	0.33	0.00	0.33	0.00	3.0	3.00	3.00	2.00	-	0.010	2.00	0.050	0.020	0.013	0.12	3.20	0.18	1.41	2.5
31	CB-756	Combination	0.03	0.00	0.03	0.00	3.0	3.00	3.00	2.00	-	1.000	2.00	0.050	0.020	0.013	0.02	0.46	0.03	0.26	2.5
32	CB-757	Combination	0.24	0.00	0.24	0.00	3.0	3.00	3.00	2.00	-	0.010	2.00	0.050	0.020	0.013	0.11	2.50	0.16	1.25	2.5
33	CB-758	Combination	0.33	0.00	0.31	0.01	3.0	3.00	3.00	2.00	-	0.010	2.00	0.040	0.020	0.013	0.11	3.65	0.18	1.41	2.5
34	CB-743	Combination	1.02	0.03	1.05	0.00	3.0	3.00	3.00	2.00	3.22	Sag	2.00	0.050	0.020	0.013	0.12	2.79	0.26	2.79	2.5
35	CB-731	Combination	0.20	0.00	0.20	0.00	3.0	3.00	3.00	2.00	-	0.010	2.00	0.050	0.020	0.013	0.10	2.20	0.15	1.18	2.5
36	CB-732	Combination	0.51	0.00	0.51	0.00	3.0	3.00	3.00	2.00	-	1.000	2.00	0.050	0.020	0.013	0.06	1.24	0.09	0.70	2.5
37	CB-733	Combination	0.60	0.00	0.55	0.05	3.0	3.00	3.00	2.00	-	0.010	2.00	0.050	0.020	0.013	0.15	4.60	0.22	1.76	2.5
38	CB-706	Combination	0.48	0.05	0.49	0.04	3.0	3.00	3.00	2.00	-	0.010	2.00	0.050	0.020	0.013	0.15	4.25	0.21	1.68	2.5
39	DI-707	Drop Grate	0.02	0.00	0.02	0.00	-	-	2.00	4.00	Sag	2.00	0.020	0.020	0.013	0.01	2.82	0.01	2.82	0.0	0
40	DI-708	Drop Grate	1.04	0.00	1.04	0.00	-	-	2.00	4.00	Sag	2.00	0.020	0.020	0.013	0.12	14.32	0.12	14.32	0.0	0
41	DI-709	Drop Grate	0.81	0.00	0.81	0.00	-	-	2.00	4.00	Sag	2.00	0.020	0.020	0.013	0.10	12.40	0.10	12.40	0.0	0
42	DI-710	Drop Grate	0.42	0.00	0.42	0.00	-	-	2.00	4.00	Sag	2.00	0.020	0.020	0.013	0.07	8.69	0.07	8.69	0.0	0
43	DI-711	Drop Grate	0.42	0.00	0.42	0.00	-	-	2.00	4.00	Sag	2.00	0.020	0.020	0.013	0.07	8.69	0.07	8.69	0.0	0
44	DI-712	Drop Grate	1.66	0.00	1.66	0.00	-	-	2.00	4.00	Sag	2.00	0.020	0.020	0.013	0.17	18.86	0.17	18.86	0.0	0

Notes: Return Period = 1-yr. All curb inlets are Horiz throat.,

Project File: Storm System 700.sws

Inlet Report

Stormwater Studio 2021 v 3.0.0.25

Project Name: Storm System 700

07-23-2021

Line No	Inlet			Q			Curb			Grate			Gutter			Inlet			Byp Line No	
	Id	Type	Catch (cfs)	Carry (cfs)	Capt (cfs)	Byp (cfs)	Ht (in)	L (ft)	W (ft)	Area (sqft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	
45	DI-713	Drop Grate	0.94	0.00	0.94	0.00	-	2.00	4.00	Sag	2.00	0.020	0.013	0.11	13.49	0.11	13.49	0.0	0	
46	CB-722	Combination	0.11	0.00	0.11	0.00	3.0	3.00	2.00	-	0.010	2.00	0.050	0.020	0.013	0.08	1.64	0.12	0.93	2.5
47	CB-723	Combination	0.04	0.00	0.04	0.00	3.0	3.00	2.00	-	0.010	2.00	0.050	0.020	0.013	0.05	1.10	0.08	0.62	2.5
48	CB-726	Combination	0.61	0.00	0.56	0.05	3.0	3.00	2.00	-	0.010	2.00	0.050	0.020	0.013	0.15	4.65	0.22	1.78	2.5
49	JB-728	Manhole	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
50	DI-729	Drop Grate	1.90	0.00	1.90	0.00	-	2.00	4.00	Sag	2.00	0.020	0.013	0.18	20.41	0.18	20.41	0.0	0	
51	CB-745	Combination	0.45	0.04	0.46	0.03	3.0	3.00	2.00	-	0.010	2.00	0.050	0.020	0.013	0.14	4.10	0.20	1.64	2.5
52	DI-746	Drop Grate	0.81	0.00	0.81	0.00	-	2.00	4.00	Sag	2.00	0.020	0.013	0.10	12.40	0.10	12.40	0.0	0	
53	DI-747	Drop Grate	1.01	0.00	1.01	0.00	-	2.00	4.00	Sag	2.00	0.020	0.013	0.12	14.12	0.12	14.12	0.0	0	
54	DI-748	Drop Grate	1.20	0.00	1.20	0.00	-	2.00	4.00	Sag	2.00	0.020	0.013	0.14	15.53	0.14	15.53	0.0	0	
55	DI-749	Drop Grate	1.32	0.00	1.32	0.00	-	2.00	4.00	Sag	2.00	0.020	0.013	0.14	16.45	0.14	16.45	0.0	0	
56	CB-724	Combination	0.48	0.00	0.48	0.00	3.0	3.00	2.00	3.22	Sag	2.00	0.040	0.020	0.013	0.05	1.15	0.21	1.72	2.5
57	CB-725	Combination	0.96	0.07	1.03	0.00	3.0	3.00	2.00	3.22	Sag	2.00	0.040	0.020	0.013	0.10	2.79	0.26	2.79	2.5
58	CB-727	Combination	0.51	0.00	0.48	0.03	3.0	3.00	2.00	-	0.010	2.00	0.050	0.020	0.013	0.14	4.20	0.21	1.66	2.5

Notes: Return Period = 1-yr. All curb inlets are Horiz throat.,

Project File: Storm System 700.sws

Inlet Report

Stormwater Studio 2021 v 3.0.0.25

Project Name: Storm System 800

07-22-2021

Line No	Inlet		Q				Curb			Grate			Gutter				Inlet		Byp Line No			
	Id	Type	Catch (cfs)	Carry (cfs)	Capt (cfs)	Byp (cfs)	Ht (in)	L (ft)	W (ft)	Area (sqft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)		
1	CB-801	Combination	0.51	0.05	0.56	0.00	3.0	3.00	3.00	2.00	6.00	Sag	2.00	0.040	0.020	0.013	0.05	1.15	0.21	1.72	2.5	0
2	CB-806	Combination	1.35	0.13	1.48	0.00	3.0	3.00	3.00	2.00	6.00	Sag	2.00	0.040	0.020	0.013	0.14	4.79	0.30	4.79	2.5	0
3	CB-807	Combination	0.24	0.00	0.24	0.00	3.0	3.00	3.00	2.00	-	0.020	2.00	0.040	0.020	0.013	0.09	2.45	0.14	1.10	2.5	2
4	CB-808	Combination	0.17	0.00	0.17	0.00	3.0	3.00	3.00	2.00	-	0.020	2.00	0.040	0.020	0.013	0.08	1.98	0.12	0.97	2.5	2
5	CB-810	Combination	0.14	0.08	0.22	0.00	3.0	3.00	3.00	2.00	-	0.027	2.00	0.040	0.020	0.013	0.08	2.10	0.13	1.01	2.5	4
6	DI-811	Drop Grate	0.45	0.00	0.45	0.00	-	-	2.00	4.00	Sag	2.00	0.020	0.020	0.013	0.07	9.05	0.07	9.05	0.0	0	
7	CB-802	Combination	0.31	0.07	0.35	0.03	3.0	3.00	3.00	2.00	-	0.006	2.00	0.040	0.020	0.013	0.13	4.50	0.21	1.65	2.5	1
8	CB-804	Combination	0.67	0.00	0.60	0.07	3.0	3.00	3.00	2.00	-	0.016	2.00	0.040	0.020	0.013	0.13	4.70	0.21	1.69	2.5	7
9	CB-805	Combination	1.12	0.00	0.89	0.23	3.0	3.00	3.00	2.00	-	0.016	2.00	0.040	0.020	0.013	0.16	5.90	0.25	2.28	2.5	24
10	CB-812	Combination	0.20	0.00	0.20	0.00	3.0	3.00	3.00	2.00	-	0.017	2.00	0.040	0.020	0.013	0.09	2.35	0.13	1.06	2.5	0
11	CB-813	Combination	0.67	0.00	0.60	0.08	3.0	3.00	3.00	2.00	-	0.017	2.00	0.040	0.020	0.013	0.13	4.55	0.21	1.66	2.5	5
12	CB-815	Combination	0.66	0.00	0.61	0.05	3.0	3.00	3.00	2.00	-	0.024	2.00	0.040	0.020	0.013	0.12	4.20	0.19	1.55	2.5	42
13	CB-816	Combination	0.34	0.00	0.34	0.00	3.0	3.00	3.00	2.00	-	0.024	2.00	0.040	0.020	0.013	0.10	2.95	0.15	1.22	2.5	42
14	CB-817	Combination	0.15	0.10	0.25	0.00	3.0	3.00	3.00	2.00	-	0.024	2.00	0.040	0.020	0.013	0.09	2.40	0.13	1.08	2.5	13
15	CB-818	Combination	0.60	0.09	0.59	0.10	3.0	3.00	3.00	2.00	-	0.011	2.00	0.040	0.020	0.013	0.14	5.10	0.23	1.82	2.5	14
16	CB-820	Combination	0.54	0.13	0.58	0.09	3.0	3.00	3.00	2.00	-	0.011	2.00	0.040	0.020	0.013	0.15	5.05	0.22	1.80	2.5	15
17	CB-822	Combination	0.69	0.09	0.65	0.13	3.0	3.00	3.00	2.00	-	0.011	2.00	0.040	0.020	0.013	0.15	5.40	0.24	1.91	2.5	16
18	CB-825	Combination	0.66	0.08	0.63	0.11	3.0	3.00	3.00	2.00	-	0.011	2.00	0.040	0.020	0.013	0.15	5.30	0.23	1.87	2.5	28
19	CB-826	Combination	0.32	0.00	0.32	0.00	3.0	3.00	3.00	2.00	0.20	Sag	2.00	0.040	0.020	0.013	0.06	1.40	0.22	1.81	2.5	0
20	DI-828	Drop Grate	0.55	0.00	0.55	0.00	-	-	2.00	4.00	Sag	2.00	0.020	0.020	0.013	0.08	10.02	0.08	10.02	0.0	0	
21	YI-829	Drop Grate	0.58	0.00	0.58	0.00	-	-	1.00	1.00	Sag	2.00	0.020	0.020	0.013	0.13	15.19	0.13	15.19	0.0	0	
22	YI-830	Drop Grate	0.40	0.00	0.40	0.00	-	-	1.00	1.00	Sag	2.00	0.020	0.020	0.013	0.10	12.28	0.10	12.28	0.0	0	

Notes: Return Period = 1-yr. All curb inlets are Horiz throat.,

Project File: Storm System 800.sws

Inlet Report

Stormwater Studio 2021 v 3.0.0.25

Project Name: Storm System 800

07-22-2021

Line No	Inlet		Q			Curb			Grate			Gutter			Inlet			Byp Line No			
	Id	Type	Catch (cfs)	Carry (cfs)	Capt (cfs)	Byp (cfs)	Ht (in)	L (ft)	W (ft)	Area (sqft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)		
23	YI-814	Drop Grate	1.87	0.00	1.87	0.00	-	1.00	1.00	1.00	Sag	2.00	0.020	0.013	0.29	30.96	0.29	30.96	0.0	0	
24	CB-803	Combination	1.12	0.23	0.98	0.37	3.0	3.00	3.00	2.00	-	0.006	2.00	0.040	0.020	0.013	0.20	7.90	0.32	5.48	2.5
25	CB-831	Combination	0.76	0.01	0.64	0.13	3.0	3.00	3.00	2.00	-	0.009	2.00	0.040	0.020	0.013	0.15	5.60	0.24	1.96	2.5
26	CB-832	Combination	0.34	0.00	0.33	0.01	3.0	3.00	3.00	2.00	-	0.009	2.00	0.040	0.020	0.013	0.12	3.80	0.18	1.44	2.5
27	CB-819	Combination	0.63	0.04	0.58	0.09	3.0	3.00	3.00	2.00	-	0.011	2.00	0.040	0.020	0.013	0.14	5.05	0.22	1.80	2.5
28	CB-821	Combination	0.36	0.11	0.43	0.04	3.0	3.00	3.00	2.00	-	0.011	2.00	0.040	0.020	0.013	0.13	4.25	0.20	1.58	2.5
29	CB-833	Combination	0.31	0.00	0.29	0.01	3.0	3.00	3.00	2.00	-	0.010	2.00	0.040	0.020	0.013	0.11	3.50	0.17	1.38	2.5
30	DI-838	Drop Grate	0.13	0.00	0.13	0.00	-	2.00	2.00	4.00	Sag	2.00	0.020	0.013	0.03	5.08	0.03	5.08	0.0	0	
31	DI-839	Drop Grate	0.13	0.00	0.13	0.00	-	2.00	2.00	4.00	Sag	2.00	0.020	0.013	0.03	5.08	0.03	5.08	0.0	0	
32	CB-840	Combination	0.66	0.01	0.57	0.09	3.0	3.00	3.00	2.00	-	0.010	2.00	0.040	0.020	0.013	0.15	5.25	0.23	1.85	2.5
33	CB-855	Combination	1.01	0.09	1.10	0.00	3.0	3.00	3.00	2.00	6.00	Sag	2.00	0.040	0.020	0.013	0.11	3.29	0.27	3.29	2.5
34	CB-859	Combination	0.65	0.14	0.64	0.14	3.0	3.00	3.00	2.00	-	0.006	2.00	0.040	0.020	0.013	0.16	6.15	0.26	2.73	2.5
35	CB-860	Combination	0.65	0.25	0.89	0.00	3.0	3.00	3.00	2.00	0.20	Sag	2.00	0.040	0.020	0.013	0.25	10.29	0.41	10.29	2.5
36	DI-861	Drop Grate	0.84	0.00	0.84	0.00	-	2.00	2.00	4.00	Sag	2.00	0.020	0.013	0.11	12.69	0.11	12.69	0.0	0	
37	DI-862	Drop Grate	0.51	0.00	0.51	0.00	-	2.00	2.00	4.00	Sag	2.00	0.020	0.013	0.08	9.62	0.08	9.62	0.0	0	
38	CB-856	Combination	0.27	0.00	0.27	0.00	3.0	3.00	3.00	2.00	-	0.017	2.00	0.040	0.020	0.013	0.10	2.80	0.15	1.18	2.5
39	DI-858	Drop Grate	0.22	0.00	0.22	0.00	-	2.00	2.00	4.00	Sag	2.00	0.020	0.013	0.04	6.43	0.04	6.43	0.0	0	
40	DI-863	Drop Grate	0.59	0.00	0.59	0.00	-	2.00	2.00	4.00	Sag	2.00	0.020	0.013	0.08	10.48	0.08	10.48	0.0	0	
41	DI-864	Drop Grate	0.65	0.00	0.65	0.00	-	2.00	2.00	4.00	Sag	2.00	0.020	0.013	0.09	11.01	0.09	11.01	0.0	0	
42	CB-857	Combination	0.84	0.05	0.76	0.14	3.0	3.00	3.00	2.00	-	0.017	2.00	0.040	0.020	0.013	0.15	5.25	0.23	1.85	2.5
43	CB-841	Combination	0.69	0.00	0.59	0.10	3.0	3.00	3.00	2.00	-	0.010	2.00	0.040	0.020	0.013	0.15	5.30	0.23	1.88	2.5
44	CB-843	Combination	0.43	0.00	0.43	0.00	3.0	3.00	3.00	2.00	-	0.045	2.00	0.040	0.020	0.013	0.10	2.80	0.15	1.18	2.5

Notes: Return Period = 1-yr. All curb inlets are Horiz throat.,

Project File: Storm System 800.sws

Inlet Report

Stormwater Studio 2021 v 3.0.0.25

Project Name: Storm System 800

07-22-2021

Line No	Inlet			Q			Curb			Grate			Gutter			Inlet			Byp Line No			
	Id	Type	Catch (cfs)	Carry (cfs)	Capt (cfs)	Byp (cfs)	Ht (in)	L (ft)	W (ft)	Area (sqft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)			
45	CB-844	Combination	0.45	0.01	0.46	0.01	3.0	3.00	3.00	2.00	-	0.045	2.00	0.040	0.020	0.013	0.10	2.90	0.15	1.21	2.5	32
46	YI-845	Drop Grate	0.27	0.00	0.27	0.00	-	1.00	1.00	1.00	Sag	2.00	0.020	0.020	0.013	0.08	9.96	0.08	9.96	0.0	0	
47	CB-846	Combination	0.36	0.00	0.36	0.00	3.0	3.00	3.00	2.00	-	0.045	2.00	0.040	0.020	0.013	0.09	2.50	0.14	1.11	2.5	44
48	CB-850	Combination	0.11	0.00	0.11	0.00	3.0	3.00	3.00	2.00	-	0.025	2.00	0.040	0.020	0.013	0.06	1.62	0.10	0.80	2.5	47
49	CB-853	Combination	0.10	0.00	0.10	0.00	3.0	3.00	3.00	2.00	-	0.015	2.00	0.040	0.020	0.013	0.07	1.72	0.11	0.85	2.5	48
50	CB-854	Combination	0.09	0.00	0.09	0.00	3.0	3.00	3.00	2.00	-	0.003	2.00	0.040	0.020	0.013	0.09	2.40	0.13	1.08	2.5	49
51	CB-851	Combination	0.16	0.00	0.16	0.00	3.0	3.00	3.00	2.00	-	0.025	2.00	0.040	0.020	0.013	0.07	1.82	0.11	0.90	2.5	55
52	YI-852	Drop Grate	0.45	0.00	0.45	0.00	-	1.00	1.00	1.00	Sag	2.00	0.020	0.020	0.013	0.11	13.16	0.11	13.16	0.0	0	
53	CB-823	Combination	0.66	0.00	0.57	0.09	3.0	3.00	3.00	2.00	-	0.011	2.00	0.040	0.020	0.013	0.14	5.00	0.22	1.79	2.5	17
54	CB-824	Combination	0.63	0.00	0.55	0.08	3.0	3.00	3.00	2.00	-	0.011	2.00	0.040	0.020	0.013	0.14	4.90	0.22	1.76	2.5	18
55	CB-847	Combination	0.57	0.00	0.56	0.01	3.0	3.00	3.00	2.00	-	0.045	2.00	0.040	0.020	0.013	0.11	3.30	0.16	1.31	2.5	45
56	YI-848	Drop Grate	0.05	0.00	0.05	0.00	-	1.00	1.00	1.00	Sag	2.00	0.020	0.020	0.013	0.03	4.52	0.03	4.52	0.0	0	
57	YI-849	Drop Grate	0.24	0.00	0.24	0.00	-	1.00	1.00	1.00	Sag	2.00	0.020	0.020	0.013	0.07	9.36	0.07	9.36	0.0	0	
58	DI-809	Drop Grate	0.08	0.00	0.08	0.00	-	2.00	4.00	4.00	Sag	2.00	0.020	0.020	0.013	0.02	4.19	0.02	4.19	0.0	0	
59	CB-827	Combination	0.29	0.00	0.29	0.00	3.0	3.00	3.00	2.00	0.18	Sag	2.00	0.040	0.020	0.013	0.06	1.40	0.22	1.81	2.5	0
60	CB-834	Combination	0.10	0.00	0.10	0.00	3.0	3.00	3.00	2.00	-	1.000	2.00	0.040	0.020	0.013	0.03	0.80	0.05	0.39	2.5	26
61	CB-835	Combination	0.20	0.00	0.20	0.00	3.0	3.00	3.00	2.00	-	0.010	2.00	0.040	0.020	0.013	0.10	2.80	0.15	1.18	2.5	60
62	CB-836	Combination	0.48	0.00	0.48	0.00	3.0	3.00	3.00	2.00	0.29	Sag	2.00	0.040	0.020	0.013	0.06	1.40	0.22	1.81	2.5	0

Notes: Return Period = 1-yr. All curb inlets are Horiz throat.,

Project File: Storm System 800.sws

Inlet Report

Stormwater Studio 2021 v 3.0.0.25

Project Name: Storm System 900

07-20-2021

Line No	Inlet		Q				Curb			Grate			Gutter				Inlet		Byp Line No			
	Id	Type	Catch (cfs)	Carry (cfs)	Capt (cfs)	Byp (cfs)	Ht (in)	L (ft)	W (ft)	Area (sqft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)		
1	CB-901	Combination	0.51	0.02	0.53	0.00	3.0	3.00	3.00	3.22	Sag	2.00	0.040	0.020	0.013	0.05	1.15	0.21	1.72	2.5	0	
2	CB-902	Combination	0.39	0.02	0.41	0.00	3.0	3.00	3.00	3.22	Sag	2.00	0.040	0.020	0.013	0.04	0.90	0.20	1.64	2.5	0	
3	CB-903	Combination	0.17	0.00	0.17	0.00	3.0	3.00	3.00	2.00	-	0.008	2.00	0.040	0.020	0.013	0.09	2.65	0.14	1.15	2.5	2
4	CB-904	Combination	0.45	0.00	0.45	0.00	3.0	3.00	3.00	2.00	-	0.048	2.00	0.040	0.020	0.013	0.10	2.80	0.15	1.18	2.5	3
5	CB-905	Combination	0.16	0.00	0.16	0.00	3.0	3.00	3.00	2.00	-	0.048	2.00	0.040	0.020	0.013	0.07	1.65	0.10	0.81	2.5	0
6	CB-906	Combination	0.52	0.00	0.49	0.03	3.0	3.00	3.00	2.00	-	0.024	2.00	0.040	0.020	0.013	0.11	3.70	0.18	1.43	2.5	0
7	CB-907	Combination	0.57	0.00	0.53	0.04	3.0	3.00	3.00	2.00	-	0.024	2.00	0.040	0.020	0.013	0.12	3.90	0.18	1.47	2.5	0
8	CB-915	Combination	0.39	0.00	0.37	0.02	3.0	3.00	3.00	2.00	-	0.011	2.00	0.040	0.020	0.013	0.12	3.85	0.18	1.47	2.5	2
9	CB-920	Combination	0.45	0.00	0.44	0.01	3.0	3.00	3.00	2.00	-	0.036	2.00	0.040	0.020	0.013	0.10	3.05	0.16	1.25	2.5	0
10	CB-921	Combination	0.53	0.00	0.51	0.02	3.0	3.00	3.00	2.00	-	0.036	2.00	0.040	0.020	0.013	0.11	3.35	0.17	1.33	2.5	1
11	CB-922	Combination	0.30	0.01	0.31	0.00	3.0	3.00	3.00	2.00	-	0.047	2.00	0.040	0.020	0.013	0.08	2.20	0.13	1.03	2.5	9
12	CB-924	Combination	0.50	0.01	0.51	0.01	3.0	3.00	3.00	2.00	-	0.047	2.00	0.040	0.020	0.013	0.10	3.05	0.16	1.25	2.5	11
13	CB-928	Combination	0.22	0.08	0.30	0.00	3.0	3.00	3.00	2.00	-	0.020	2.00	0.040	0.020	0.013	0.10	2.85	0.15	1.19	2.5	12
14	CB-931	Combination	0.38	0.01	0.39	0.01	3.0	3.00	3.00	2.00	-	0.020	2.00	0.040	0.020	0.013	0.11	3.35	0.16	1.32	2.5	12
15	CB-932	Combination	0.24	0.01	0.25	0.00	3.0	3.00	3.00	2.00	-	0.047	2.00	0.040	0.020	0.013	0.08	1.95	0.12	0.96	2.5	12
16	CB-934	Combination	0.47	0.04	0.49	0.01	3.0	3.00	3.00	2.00	-	0.040	2.00	0.040	0.020	0.013	0.13	3.15	0.16	1.28	2.5	15
17	CB-937	Combination	0.63	0.32	0.84	0.11	3.0	3.00	3.00	2.00	-	0.040	2.00	0.040	0.020	0.013	0.13	4.40	0.20	1.62	2.5	30
18	DI-938	Drop Grate	0.05	0.00	0.05	0.00	-	-	2.00	4.00	Sag	2.00	0.020	0.020	0.013	0.02	3.71	0.02	3.71	0.0	0	
19	YL-939	Drop Grate	0.44	0.00	0.44	0.00	-	-	1.00	1.00	Sag	2.00	0.020	0.020	0.013	0.11	13.02	0.11	13.02	0.0	0	
20	YL-940	Drop Grate	0.31	0.00	0.31	0.00	-	-	1.00	1.00	Sag	2.00	0.020	0.020	0.013	0.09	10.69	0.09	10.69	0.0	0	
21	CB-923	Combination	0.24	0.02	0.26	0.00	3.0	3.00	3.00	2.00	-	0.047	2.00	0.040	0.020	0.013	0.08	1.95	0.12	0.97	2.5	10
22	CB-941	Combination	0.34	0.21	0.51	0.04	3.0	3.00	3.00	2.00	-	0.023	2.00	0.040	0.020	0.013	0.12	3.85	0.18	1.47	2.5	16

Notes: Return Period = 1-yr. All curb inlets are Horiz throat.,

Project File: Storm System 900.sws

Inlet Report

Stormwater Studio 2021 v 3.0.0.25

Project Name: Storm System 900

07-20-2021

Line No	Inlet		Q				Curb			Grate			Gutter				Inlet		Byp Line No		
	Id	Type	Catch (cfs)	Carry (cfs)	Capt (cfs)	Byp (cfs)	Ht (in)	L (ft)	W (ft)	Area (sqft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	
23	CB-942	Combination	1.41	0.00	1.09	0.32	3.0	3.00	2.00	-	0.023	2.00	0.040	0.020	0.013	0.16	6.05	0.26	2.53	2.5	17
24	CB-908	Combination	0.17	0.00	0.17	0.00	3.0	3.00	2.00	-	0.048	2.00	0.040	0.020	0.013	0.07	1.67	0.10	0.82	2.5	0
25	DI-909	Drop Grate	1.79	0.00	1.79	0.00	-	2.00	2.00	4.00	Sag	2.00	0.020	0.020	0.013	0.18	19.73	0.18	19.73	0.0	0
26	CB-925	Combination	0.51	0.04	0.53	0.02	3.0	3.00	2.00	-	0.047	2.00	0.040	0.020	0.013	0.10	3.15	0.16	1.28	2.5	21
27	DI-926	Drop Grate	0.27	0.00	0.27	0.00	-	2.00	2.00	4.00	Sag	2.00	0.020	0.020	0.013	0.05	7.01	0.05	7.01	0.0	0
28	YI-927	Drop Grate	0.36	0.00	0.36	0.00	-	1.00	1.00	Sag	2.00	0.020	0.020	0.013	0.10	11.64	0.10	11.64	0.0	0	
29	DI-935	Drop Grate	2.13	0.00	2.13	0.00	-	2.00	2.00	4.00	Sag	2.00	0.020	0.020	0.013	0.20	21.89	0.20	21.89	0.0	0
30	CB-933	Combination	0.60	0.11	0.67	0.04	3.0	3.00	2.00	-	0.047	2.00	0.040	0.020	0.013	0.11	3.65	0.18	1.41	2.5	26
31	CB-910	Combination	0.31	0.01	0.31	0.00	3.0	3.00	2.00	-	0.048	2.00	0.040	0.020	0.013	0.08	2.20	0.13	1.03	2.5	0
32	CB-911	Combination	0.39	0.08	0.47	0.00	3.0	3.00	2.00	-	0.048	2.00	0.040	0.020	0.013	0.10	2.90	0.15	1.21	2.5	4
33	CB-912	Combination	0.90	0.00	0.82	0.08	3.0	3.00	2.00	-	0.048	2.00	0.040	0.020	0.013	0.12	4.10	0.19	1.53	2.5	32
34	CB-913	Combination	0.54	0.00	0.54	0.01	3.0	3.00	2.00	-	0.048	2.00	0.040	0.020	0.013	0.10	3.15	0.16	1.27	2.5	31
35	DI-914	Drop Grate	2.09	0.00	2.09	0.00	-	2.00	2.00	4.00	Sag	2.00	0.020	0.020	0.013	0.20	21.62	0.20	21.62	0.0	0
36	CB-929	Combination	0.84	0.00	0.76	0.08	3.0	3.00	2.00	-	0.037	2.00	0.040	0.020	0.013	0.13	4.25	0.20	1.57	2.5	13
37	CB-930	Combination	0.51	0.00	0.50	0.01	3.0	3.00	2.00	-	0.037	2.00	0.040	0.020	0.013	0.11	3.25	0.16	1.30	2.5	14
38	CB-943	Combination	0.66	0.00	0.57	0.09	3.0	3.00	2.00	-	0.012	2.00	0.040	0.020	0.013	0.14	4.95	0.22	1.77	2.5	22
39	CB-944	Combination	0.60	0.00	0.53	0.07	3.0	3.00	2.00	-	0.012	2.00	0.040	0.020	0.013	0.14	4.75	0.21	1.72	2.5	22
40	CB-945	Combination	0.54	0.00	0.49	0.05	3.0	3.00	2.00	-	0.014	2.00	0.040	0.020	0.013	0.13	4.35	0.20	1.60	2.5	22
41	CB-946	Combination	0.28	0.00	0.28	0.00	3.0	3.00	2.00	3.22	Sag	2.00	0.040	0.020	0.013	0.02	0.40	0.18	1.48	2.5	0
42	CB-947	Combination	0.31	0.00	0.31	0.00	3.0	3.00	2.00	3.22	Sag	2.00	0.040	0.020	0.013	0.02	0.40	0.18	1.48	2.5	0
43	DI-948	Drop Grate	0.70	0.00	0.70	0.00	-	2.00	2.00	4.00	Sag	2.00	0.020	0.020	0.013	0.09	11.43	0.09	11.43	0.0	0
44	YI-949	Drop Grate	0.97	0.00	0.97	0.00	-	1.00	1.00	Sag	2.00	0.020	0.020	0.013	0.19	20.65	0.19	20.65	0.0	0	

Notes: Return Period = 1-yr. All curb inlets are Horiz throat.,

Project File: Storm System 900.sws

Inlet Report

Stormwater Studio 2021 v 3.0.0.25

Project Name: Storm System 900

07-20-2021

Line No	Inlet			Q			Curb			Grate			Gutter			Inlet			Byp Line No	
	Id	Type	Catch (cfs)	Carry (cfs)	Capt (cfs)	Byp (cfs)	Ht (in)	L (ft)	W (ft)	Area (sqft)	S _o (ft/ft)	W (ft/ft)	S _w (ft/ft)	S _x (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	
45	DI-916	Drop Grate	0.65	0.00	0.65	0.00	-	-	2.00	4.00	Sag	2.00	0.020	0.013	0.09	11.01	0.09	11.01	0.0	0
46	JB-917	Manhole	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
47	DI-918	Drop Grate	2.82	0.00	2.82	0.00	-	-	2.00	4.00	Sag	2.00	0.020	0.013	0.24	25.95	0.24	25.95	0.0	0
48	DI-919	Drop Grate	1.94	0.00	1.94	0.00	-	-	2.00	4.00	Sag	2.00	0.020	0.013	0.19	20.70	0.19	20.70	0.0	0

Notes: Return Period = 1-yr.,

Project File: Storm System 900.sws

Inlet Report

Stormwater Studio 2021 v 3.0.0.25

Project Name: Storm System 1000

07-20-2021

Line No	Inlet		Q				Curb			Grate			Gutter				Inlet		Byp Line No		
	Id	Type	Catch (cfs)	Carry (cfs)	Capt (cfs)	Byp (cfs)	Ht (in)	L (ft)	W (ft)	Area (sqft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (in)			
1	DI-1001	Drop Grate	0.83	0.00	0.83	0.00	-	2.00	4.00	Sag	2.00	0.020	0.013	0.11	12.62	0.11	12.62	0.0	0		
2	CB-1003	Combination	0.60	0.00	0.59	0.01	3.0	3.00	3.00	-	0.049	2.00	0.040	0.020	0.013	0.11	3.30	0.16	1.31	2.5	
3	CB-1004	Combination	0.13	0.00	0.13	0.00	3.0	3.00	3.00	-	0.049	2.00	0.040	0.020	0.013	0.06	1.50	0.09	0.74	2.5	
4	CB-1005	Combination	0.27	0.00	0.27	0.00	3.0	3.00	3.00	-	0.049	2.00	0.040	0.020	0.013	0.08	1.98	0.12	0.97	2.5	
5	CB-1006	Combination	0.18	0.00	0.18	0.00	3.0	3.00	3.00	-	0.019	2.00	0.040	0.020	0.013	0.08	2.10	0.13	1.01	2.5	
6	CB-1008	Combination	0.66	0.00	0.66	0.00	3.0	3.00	3.00	2.00	6.00	Sag	2.00	0.040	0.020	0.013	0.14	5.00	0.14	5.00	0
7	CB-1010	Combination	0.21	0.00	0.21	0.00	3.0	3.00	3.00	2.00	-	0.022	2.00	0.040	0.020	0.013	0.08	2.20	0.13	1.03	2.5
8	CB-1011	Combination	0.20	0.00	0.20	0.00	3.0	3.00	3.00	2.00	-	0.043	2.00	0.040	0.020	0.013	0.07	1.82	0.11	0.90	2.5
9	CB-1012	Combination	0.34	0.00	0.34	0.00	3.0	3.00	3.00	2.00	-	0.043	2.00	0.040	0.020	0.013	0.09	2.45	0.14	1.10	2.5
10	CB-1013	Combination	0.14	0.00	0.14	0.00	3.0	3.00	3.00	2.00	-	0.043	2.00	0.040	0.020	0.013	0.06	1.57	0.10	0.77	2.5
11	CB-1014	Combination	0.13	0.00	0.13	0.00	3.0	3.00	3.00	2.00	-	0.043	2.00	0.040	0.020	0.013	0.06	1.55	0.09	0.76	2.5
12	CB-1015	Combination	0.15	0.05	0.20	0.00	3.0	3.00	3.00	2.00	-	0.015	2.00	0.040	0.020	0.013	0.09	2.45	0.14	1.10	2.5
13	CB-1016	Combination	0.60	0.00	0.56	0.04	3.0	3.00	3.00	2.00	-	0.030	2.00	0.040	0.020	0.013	0.12	3.75	0.18	1.44	2.5
14	CB-1017	Combination	0.54	0.00	0.51	0.03	3.0	3.00	3.00	2.00	-	0.030	2.00	0.040	0.020	0.013	0.11	3.55	0.11	3.55	0
15	CB-1018	Combination	0.36	0.00	0.34	0.02	3.0	3.00	3.00	2.00	-	0.011	2.00	0.040	0.020	0.013	0.11	3.70	0.11	3.70	0
16	CB-1019	Combination	0.24	0.00	0.24	0.00	3.0	3.00	3.00	2.00	-	0.011	2.00	0.040	0.020	0.013	0.10	2.95	0.10	2.95	0
17	CB-1020	Combination	0.04	0.00	0.04	0.00	3.0	3.00	3.00	2.00	-	0.008	2.00	0.040	0.020	0.013	0.05	1.32	0.05	1.32	0
18	CB-1021	Combination	0.99	0.05	1.04	0.00	3.0	3.00	3.00	2.00	6.00	Sag	2.00	0.040	0.020	0.013	0.18	7.00	0.18	7.00	0
19	CB-1022	Combination	0.31	0.07	0.38	0.00	3.0	3.00	3.00	2.00	6.00	Sag	2.00	0.040	0.020	0.013	0.11	3.50	0.11	3.50	0
20	CB-1023	Combination	0.45	0.21	0.58	0.07	3.0	3.00	3.00	2.00	-	0.015	2.00	0.040	0.020	0.013	0.13	4.70	0.13	4.70	0
21	CB-1024	Combination	0.54	0.00	0.49	0.05	3.0	3.00	3.00	2.00	-	0.015	2.00	0.040	0.020	0.013	0.13	4.25	0.13	4.25	0
22	DI-1025	Drop Grate	0.75	0.00	0.75	0.00	-	2.00	4.00	Sag	2.00	0.020	0.013	0.10	11.94	0.10	11.94	0.0	0		

Notes: Return Period = 1-yr. All curb inlets are Horiz throat.,

Project File: Storm System 1000.sws

Inlet Report

Stormwater Studio 2021 v 3.0.0.25

Project Name: Storm System 1000

07-20-2021

Line No	Inlet		Q			Curb			Grate			Gutter			Inlet		Byp Line No					
	Id	Type	Catch (cfs)	Carry (cfs)	Capt (cfs)	Byp (cfs)	Ht (in)	L (ft)	W (ft)	Area (sqft)	S _o (ft/ft)	W (ft/ft)	S _w (ft/ft)	S _x (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (in)			
23	DI-1026	Drop Grate	0.26	0.00	0.26	0.00	-	-	2.00	4.00	Sag	2.00	0.020	0.013	0.05	6.89	0.05	6.89	0.0	0		
24	DI-1027	Drop Grate	1.35	0.00	1.35	0.00	-	-	2.00	4.00	Sag	2.00	0.020	0.013	0.15	16.68	0.15	16.68	0.0	0		
25	CB-1028	Combination	0.87	0.18	0.84	0.21	3.0	3.00	3.00	2.00	-	0.015	2.00	0.040	0.020	0.013	0.16	5.80	0.16	5.80	0.0	20
26	CB-1029	Combination	0.75	0.00	0.66	0.09	3.0	3.00	3.00	2.00	-	0.017	2.00	0.040	0.020	0.013	0.14	4.85	0.14	4.85	0.0	25
27	CB-1030	Combination	0.72	0.00	0.63	0.09	3.0	3.00	3.00	2.00	-	0.017	2.00	0.040	0.020	0.013	0.14	4.75	0.14	4.75	0.0	25
28	CB-1007	Combination	0.15	0.00	0.15	0.00	3.0	3.00	3.00	2.00	-	0.019	2.00	0.040	0.020	0.013	0.08	1.90	0.08	1.90	0.0	2
29	CB-1009	Combination	1.02	0.00	1.02	0.00	3.0	3.00	3.00	2.00	6.00	Sag	2.00	0.040	0.020	0.013	0.18	7.00	0.18	7.00	0.0	0

Notes: Return Period = 1-yr. All curb inlets are Horiz throat.

Project File: Storm System 1000.sws

Inlet Report

Stormwater Studio 2021 v 3.0.0.25

Project Name: Storm System 1100

07-20-2021

Line No	Inlet		Q			Curb			Grate			Gutter			Inlet		Byp Line No					
	Id	Type	Catch (cfs)	Carry (cfs)	Capt (cfs)	Byp (cfs)	Ht (in)	L (ft)	W (ft)	Area (sqft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (in)			
1	CB-1101	Combination	0.31	0.00	0.31	0.00	3.0	3.00	3.00	2.00	-	0.037	2.00	0.040	0.020	0.013	0.09	2.35	0.13	1.07	2.5	4
2	CB-1102	Combination	0.66	0.00	0.62	0.04	3.0	3.00	3.00	2.00	-	0.037	2.00	0.040	0.020	0.013	0.12	3.75	0.18	1.43	2.5	3
3	CB-1103	Combination	0.16	0.04	0.20	0.00	3.0	3.00	3.00	2.00	-	0.027	2.00	0.040	0.020	0.013	0.08	2.00	0.12	0.97	2.5	0
4	CB-1104	Combination	0.16	0.00	0.16	0.00	3.0	3.00	3.00	2.00	-	0.027	2.00	0.040	0.020	0.013	0.07	1.85	0.11	0.91	2.5	0
5	DI-1105	Drop Grate	2.62	0.00	2.62	0.00	-	-	2.00	4.00	Sag	2.00	0.020	0.020	0.013	0.23	24.80	0.23	24.80	0.0	0	

Notes: Return Period = 1-yr. All curb inlets are Horiz throat.

Project File: Storm System 1100.sws

Inlet Report

Stormwater Studio 2021 v 3.0.0.25

Project Name: Storm System 1200

07-20-2021

Line No	Inlet			Q			Curb			Grate			Gutter			Inlet			Byp Line No
	Id	Type	Catch (cfs)	Carry (cfs)	Capt (cfs)	Byp (cfs)	Ht (in)	L (ft)	W (ft)	Area (sqft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft)	n	Depth (ft)	Spread (ft)	Depth (in)	
1	DI-1201	Drop Grate	1.07	0.00	1.07	0.00	-	-	2.00	3.67	Sag	2.00	0.042	0.020	0.013	0.13	14.53	0.0	0
2	DI-1202	Drop Grate	1.64	0.00	1.64	0.00	-	-	2.00	3.67	Sag	2.00	0.042	0.020	0.013	0.17	18.69	0.0	0
3	DI-1203	Drop Grate	0.44	0.00	0.44	0.00	-	-	2.00	3.67	Sag	2.00	0.042	0.020	0.013	0.07	8.96	0.07	0
4	DI-1204	Drop Grate	0.44	0.00	0.44	0.00	-	-	2.00	3.67	Sag	2.00	0.042	0.020	0.013	0.07	8.96	0.07	0
5	DI-1205	Drop Grate	0.44	0.00	0.44	0.00	-	-	2.00	0.27	Sag	2.00	0.042	0.020	0.013	0.09	11.29	0.09	0
6	DI-1206	Drop Grate	0.44	0.00	0.44	0.00	-	-	2.00	0.27	Sag	2.00	0.042	0.020	0.013	0.09	11.29	0.09	0
7	DI-1207	Drop Grate	0.44	0.00	0.44	0.00	-	-	2.00	3.67	Sag	2.00	0.042	0.020	0.013	0.07	8.96	0.07	0
8	DI-1208	Drop Grate	0.42	0.00	0.42	0.00	-	-	2.00	3.67	Sag	2.00	0.042	0.020	0.013	0.07	8.69	0.07	0
9	DI-1209	Drop Grate	1.85	0.00	1.85	0.00	-	-	2.00	3.67	Sag	2.00	0.042	0.020	0.013	0.18	20.07	0.18	0

Notes: Return Period = 1-yr(s),

Project File: Storm System 1200.sws

Inlet Report

Stormwater Studio 2021 v 3.0.0.25

Project Name: Storm System 1300

07-20-2021

Line No	Inlet		Q			Curb			Grate			Gutter			Inlet		Byp Line No					
	Id	Type	Catch (cfs)	Carry (cfs)	Capt (cfs)	Byp (cfs)	Ht (in)	L (ft)	W (ft)	Area (sqft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (in)			
1	DI-1301	Drop Grate	1.23	0.00	1.23	0.00	-	-	2.00	2.00	4.00	Sag	2.00	0.040	0.020	0.013	0.14	15.80	0.14	15.80	0.0	0

Notes: Return Period = 1-yr.,

Project File: Storm System 1300.sws

Inlet Report

Stormwater Studio 2021 v 3.0.0.25

Project Name: Storm System 1400

07-23-2021

Line No	Inlet			Q			Curb			Grate			Gutter			Inlet			Byp Line No		
	Id	Type	Catch (cfs)	Carry (cfs)	Capt (cfs)	Byp (cfs)	Ht (in)	L (ft)	W (ft)	Area (sqft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)		
1	CB-1404	Combination	0.07	0.00	0.07	0.00	3.0	3.00	3.00	2.00	-	0.011	2.00	0.042	0.020	0.013	0.06	1.52	0.10	0.77	2.5
2	CB-1405	Combination	0.24	0.16	0.38	0.02	3.0	3.00	3.00	2.00	-	0.011	2.00	0.042	0.020	0.013	0.12	3.85	0.18	1.48	2.5
3	CB-1418	Combination	0.69	0.21	0.74	0.16	3.0	3.00	3.00	2.00	-	0.011	2.00	0.042	0.020	0.013	0.16	5.70	0.25	2.08	2.5
4	CB-1422	Combination	0.20	0.00	0.20	0.00	3.0	3.00	3.00	2.00	-	0.011	2.00	0.042	0.020	0.013	0.09	2.50	0.14	1.14	2.5
5	CB-1423	Combination	0.11	0.01	0.12	0.00	3.0	3.00	3.00	2.00	-	0.011	2.00	0.042	0.020	0.013	0.08	1.88	0.12	0.95	2.5
6	CB-1430	Combination	0.34	0.00	0.33	0.01	3.0	3.00	3.00	2.00	-	0.011	2.00	0.042	0.020	0.013	0.11	3.50	0.17	1.39	2.5
7	CB-1435	Combination	0.34	0.00	0.33	0.01	3.0	3.00	3.00	2.00	-	0.010	2.00	0.042	0.020	0.013	0.12	3.65	0.18	1.43	2.5
8	CB-1437	Combination	0.70	0.02	0.62	0.10	3.0	3.00	3.00	2.00	-	0.011	2.00	0.042	0.020	0.013	0.15	5.20	0.23	1.86	2.5
9	CB-1439	Combination	0.38	0.00	0.37	0.02	3.0	3.00	3.00	2.00	-	0.011	2.00	0.042	0.020	0.013	0.12	3.80	0.18	1.47	2.5
10	CB-1442	Combination	0.22	0.00	0.22	0.00	3.0	3.00	3.00	2.00	-	0.011	2.00	0.042	0.020	0.013	0.10	2.75	0.15	1.20	2.5
11	CB-1443	Combination	0.19	0.00	0.19	0.00	3.0	3.00	3.00	2.00	-	0.011	2.00	0.042	0.020	0.013	0.09	2.50	0.14	1.14	2.5
12	CB-1440	Combination	0.45	0.00	0.42	0.03	3.0	3.00	3.00	2.00	-	0.011	2.00	0.042	0.020	0.013	0.13	4.10	0.19	1.55	2.5
13	DI-1441	Drop Grate	2.64	0.00	2.64	0.00	-	-	2.00	3.67	Sag	2.00	0.020	0.020	0.013	0.23	24.94	0.23	24.94	0.0	0
14	CB-1438	Combination	0.70	0.03	0.63	0.10	3.0	3.00	3.00	2.00	-	0.011	2.00	0.042	0.020	0.013	0.15	5.25	0.23	1.87	2.5
15	CB-1424	Combination	0.14	0.00	0.14	0.00	3.0	3.00	3.00	2.00	-	0.018	2.00	0.042	0.020	0.013	0.08	1.83	0.12	0.93	2.5
16	CB-1425	Combination	0.93	0.00	0.93	0.00	3.0	3.00	3.00	2.00	3.22	Sag	2.00	0.042	0.020	0.013	0.09	2.29	0.25	2.29	2.5
17	CB-1427	Combination	0.11	0.00	0.11	0.00	3.0	3.00	3.00	2.00	-	0.013	2.00	0.042	0.020	0.013	0.07	1.74	0.11	0.89	2.5
18	CB-1428	Combination	0.39	0.00	0.37	0.02	3.0	3.00	3.00	2.00	-	0.013	2.00	0.042	0.020	0.013	0.12	3.65	0.18	1.43	2.5
19	CB-1427A	Combination	0.58	0.00	0.58	0.00	3.0	3.00	3.00	2.00	3.22	Sag	2.00	0.042	0.020	0.013	0.06	1.42	0.22	1.81	2.5
20	DI-1431	Drop Grate	0.22	0.00	0.22	0.00	-	-	2.00	3.67	Sag	2.00	0.020	0.020	0.013	0.04	6.32	0.04	6.32	0.0	0
21	DI-1432	Drop Grate	1.37	0.00	1.37	0.00	-	-	2.00	3.67	Sag	2.00	0.020	0.020	0.013	0.15	16.80	0.15	16.80	0.0	0
22	DI-1434	Drop Grate	0.96	0.00	0.96	0.00	-	-	2.00	3.67	Sag	2.00	0.020	0.020	0.013	0.12	13.68	0.12	13.68	0.0	0

Notes: Return Period = 1-ys. All curb inlets are Horiz throat.,

Project File: Storm System 1400.sws

Inlet Report

Stormwater Studio 2021 v 3.0.0.25

Project Name: Storm System 1400

07-23-2021

Line No	Inlet		Q				Curb			Grate			Gutter				Inlet		Byp Line No		
	Id	Type	Catch (cfs)	Carry (cfs)	Capt (cfs)	Byp (cfs)	Ht (in)	L (ft)	W (ft)	Area (sqft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)		
23	DI-1436	Drop Grate	0.74	0.00	0.74	0.00	-	2.00	3.67	Sag	2.00	0.020	0.013	0.10	11.82	0.10	11.82	0.0	0		
24	CB-1429	Combination	0.40	0.00	0.40	0.00	3.0	3.00	2.00	0.24	Sag	2.00	0.042	0.020	0.013	0.06	1.42	0.22	1.81	2.5	
25	CB-1426	Combination	1.23	0.02	1.25	0.00	3.0	3.00	3.00	2.00	3.22	Sag	2.00	0.042	0.020	0.013	0.12	3.79	0.28	3.79	2.5
26	CB-1401	Combination	0.18	0.00	0.18	0.00	3.0	3.00	3.00	2.00	-	0.011	2.00	0.040	0.020	0.013	0.09	2.50	0.14	1.10	2.5
27	CB-1402	Combination	0.58	0.00	0.58	0.00	3.0	3.00	3.00	2.00	0.35	Sag	2.00	0.050	0.020	0.013	0.08	1.52	0.22	1.81	2.5
28	DI-1419	Drop Grate	0.42	0.00	0.42	0.00	-	2.00	3.67	Sag	2.00	0.020	0.013	0.07	8.69	0.07	8.69	0.0	0		
29	DI-1420	Drop Grate	0.68	0.00	0.68	0.00	-	2.00	3.67	Sag	2.00	0.020	0.013	0.09	11.25	0.09	11.25	0.0	0		
30	DI-1421	Drop Grate	0.49	0.00	0.49	0.00	-	2.00	3.67	Sag	2.00	0.020	0.013	0.08	9.50	0.08	9.50	0.0	0		
31	CB-1408	Combination	0.19	0.00	0.19	0.00	3.0	3.00	3.00	2.00	-	0.011	2.00	0.042	0.020	0.013	0.09	2.50	0.14	1.14	2.5
32	CB-1409	Combination	0.38	0.00	0.37	0.01	3.0	3.00	3.00	2.00	-	0.014	2.00	0.042	0.020	0.013	0.12	3.55	0.18	1.41	2.5
33	CB-1410	Combination	0.42	0.00	0.40	0.02	3.0	3.00	3.00	2.00	-	0.014	2.00	0.042	0.020	0.013	0.12	3.70	0.18	1.45	2.5
34	DI-1411	Drop Grate	0.76	0.00	0.76	0.00	-	2.00	3.67	Sag	2.00	0.020	0.013	0.10	12.00	0.10	12.00	0.0	0		
35	CB-1406	Combination	0.83	0.02	0.71	0.15	3.0	3.00	3.00	2.00	-	0.011	2.00	0.042	0.020	0.013	0.16	5.55	0.24	1.97	2.5
36	CB-1407	Combination	0.37	0.00	0.36	0.02	3.0	3.00	3.00	2.00	-	0.011	2.00	0.042	0.020	0.013	0.12	3.70	0.18	1.45	2.5
37	CB-1412	Combination	0.19	0.01	0.21	0.00	3.0	3.00	3.00	2.00	-	0.014	2.00	0.042	0.020	0.013	0.09	2.40	0.14	1.11	2.5
38	CB-1413	Combination	1.26	0.02	1.28	0.00	3.0	3.00	3.00	2.00	3.22	Sag	2.00	0.042	0.020	0.013	0.12	3.79	0.28	3.79	2.5
39	DI-1416	Drop Grate	0.29	0.00	0.29	0.00	-	2.00	3.67	Sag	2.00	0.020	0.013	0.05	7.31	0.05	7.31	0.0	0		
40	DI-1417	Drop Grate	1.79	0.00	1.79	0.00	-	2.00	3.67	Sag	2.00	0.020	0.013	0.18	19.72	0.18	19.72	0.0	0		
41	CB-1414	Combination	1.03	0.00	1.03	0.00	3.0	3.00	3.00	2.00	0.63	Sag	2.00	0.042	0.020	0.013	0.10	2.79	0.26	2.79	2.5
42	DI-1415	Drop Grate	0.64	0.00	0.64	0.00	-	2.00	3.67	Sag	2.00	0.020	0.013	0.09	10.90	0.09	10.90	0.0	0		

Notes: Return Period = 1-yr. All curb inlets are Horiz throat.,

Project File: Storm System 1400.sws

*GREENWAY CULVERT
CALCULATIONS*

The Point – South Pkg 2
2021110396

Culvert Report

Project filename: The Point Pkg 2 Greenway Culverts.cst

Culvert Studio v 2.0.0.26

02-22-2022

Greenway Culvert - 5

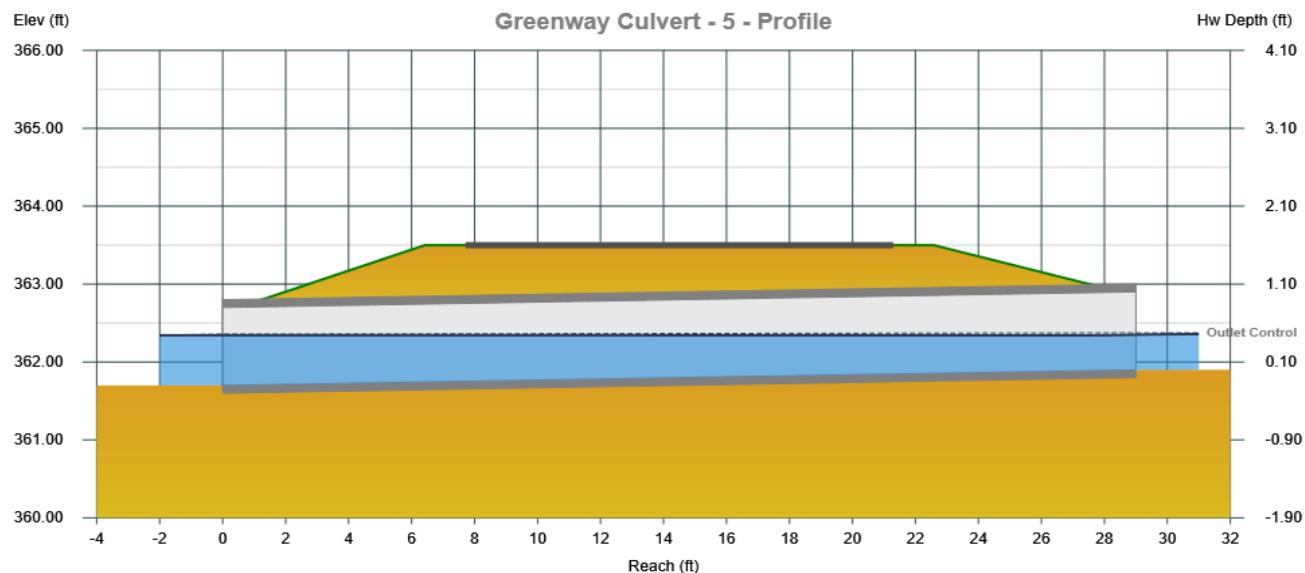
Culvert 1

CULVERT		EMBANKMENT	
Shape	= Circular	Top Width	= 14.00 ft
Inlet Edge	= Projecting	Top Elevation	= 363.50 ft
Material	= Concrete	Crest Length	= 50.00 ft
Manning's n	= 0.012		
Rise	= 12 in		
Span	= 12 in		
Invert Elev. Down	= 361.70 ft		
Length	= 29.0 ft		
Slope	= 0.007 ft/ft		
Invert Elev. Up	= 361.90 ft		
No. Barrels	= 1		
Plan Skew Angle	= 30 degrees		
		DISCHARGE	
		Method	= Rational Method
		Drainage Area	= 0.19 ac
		Runoff Coefficient	= 0.35
		Time of Concentration	= 5 min
		TAILWATER	
		Tailwater Elevation	= (dc+D)/2

CALCULATION SAMPLE, 10 - Year Event

Discharge			Velocity		Depth		HGL @ Hw/D = 0.46		
Total	Culvert	Over Top	Down	Up	Down	Up	Down	Up	Hw
(cfs)	(cfs)	(cfs)	(ft/s)	(ft/s)	(in)	(in)	(ft)	(ft)	(ft)
0.48	0.48	0.00	0.89	1.43	7.7	5.3	362.34	362.34	362.36

Notes:IDF Curves = The Point.IDF;



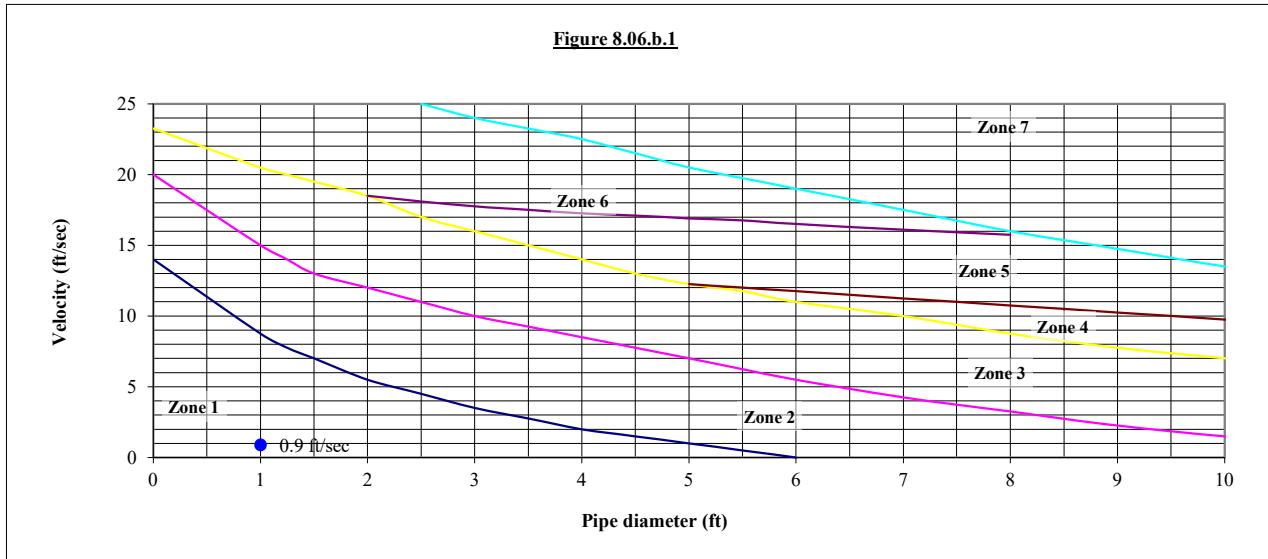


DESIGN OF RIPRAP OUTLET PROTECTION WORKSHEET

Project: The Point South - Pkg 2
 Project Number: AWH-20000
 Outlet Number: Greenway Culvert 5

Date: 7/20/2021
 Calculated By: WTO

Outlet flowrate =	0.48	cfs
Pipe diameter =	12	inches
Number of pipes =	1	
Pipe separation =	0	feet
Outlet Velocity =	0.89	ft/sec



Zone from graph above = **1**

Outlet pipe diameter	12 in.
Outlet flowrate	0.5 cfs
Outlet velocity	0.9 ft/sec
Material	Class A

Length	4.0 ft.
Width	2.6 ft.
Stone diameter	3 in.
Thickness	12 in.

Zone	Material	Diameter	Thickness	Length	Width
1	Class A	3	12	$4 \times D(o)$	$3 \times D(o)$
2	Class B	6	18	$6 \times D(o)$	$3 \times D(o)$
3	Class I	13	24	$8 \times D(o)$	$3 \times D(o)$
4	Class I	13	24	$8 \times D(o)$	$3 \times D(o)$
5	Class II	23	36	$10 \times D(o)$	$3 \times D(o)$
6	Class II	23	36	$10 \times D(o)$	$3 \times D(o)$
7	Special study required				

1. Calculations based on NY DOT method - Pages 8.06.05 through 8.06.06 in NC Erosion Control Manual

2. Outlet velocity based on full-flow velocity